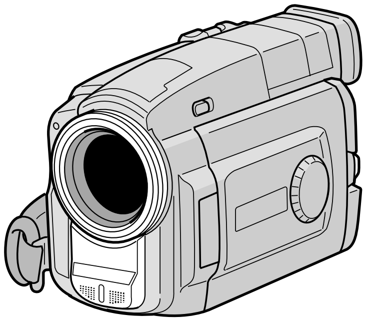
JVC

SERVICE MANUAL

DIGITAL VIDEO CAMERA

GR-DVL9800A/AS/EA/SH



Mini DV PAL

DSC DIGITAL STILL CAMERA

Regarding service information other than these sections, refer to the GR-DVL9800EG service manual (No. 86548). Also, be sure to note important safety precautions provided in the service manual.

SPECIFICATIONS

Camcorder

For General

Power supply	: DC 6.3 V ⎓ (Using AC Power Adapter/Charger) DC 7.2 V ⎓ (Using battery pack)
Power consumption	
LCD monitor off, viewfinder on	: Approx. 4.4 W
LCD monitor on, viewfinder off	: Approx. 5.2 W
Dimensions (W x H x D)	: 77 mm x 94 mm x 142 mm (with the LCD monitor closed and the viewfinder pushed back in)
Weight	: Approx. 620 g (without cassette, MultiMediaCard and battery) Approx. 700 g (incl. cassette, MultiMediaCard and battery)
Operating temperature	: 0°C to 40°C
Operating humidity	: 35% to 80%
Storage temperature	: –20°C to 50°C
Pickup	: 1/3" CCD (Progressive Scan)
Lens	: F 1.8, f = 5 to 50 mm, 10:1 power zoom lens
Filter diameter	: ø37 mm
LCD monitor	: 3.5" diagonally measured, LCD panel/TFT active matrix system
Viewfinder	: Electronic viewfinder with 0.55" colour LCD
Speaker	: Monaural

For Digital Video Camera

Format	: DV format (SD mode)
Signal format	: PAL standard
Recording/Playback format	: Video: Digital component recording : Audio: PCM digital recording, 32 kHz 4-channel (12-bit), 48 kHz 2-channel (16-bit)
Cassette	: Mini DV cassette
Tape speed	: SP: 18.8 mm/s LP: 12.5 mm/s
Maximum recording time (using 80 min. cassette)	: SP: 80 min. LP: 120 min.

For Digital Still Camera

Storage media	: MultiMediaCard
Compression system	: JPEG (compatible)
File size	: 2 modes (XGA: 1024 x 768 pixels/VGA: 640 x 480 pixels)
Picture quality	: 3 modes (FINE/STANDARD/ECONOMY)
Approximate number of storable images	
(with the provided MultiMediaCard [4 MB])	
FINE	: 25 (VGA), 12 (XGA)
STANDARD	: 50 (VGA), 24 (XGA)
ECONOMY	: 75 (VGA), 36 (XGA)
(with an optional MultiMediaCard [8 MB])	
FINE	: 50 (VGA), 24 (XGA)
STANDARD	: 100 (VGA), 48 (XGA)
ECONOMY	: 150 (VGA), 72 (XGA)

For Connectors

S-VIDEO	
Output	: Y : 1 V (p-p), 75 Ω, analogue C : 0.29 V (p-p), 75 Ω, analogue
Input	: Y : 0.8 V (p-p) – 1.2 V (p-p), 75 Ω, analogue C : 0.2 V (p-p) – 0.4 V (p-p), 75 Ω, analogue
AV	
Video output	: 1 V (p-p), 75 Ω, analogue
Video input	: 0.5 V (p-p) – 2.0 V (p-p), 75 Ω, analogue
Audio output	: 300 mV (rms), 1 kΩ, analogue, stereo
Audio input	: 300 mV (rms), 50 kΩ, analogue, stereo
DV	
Input/output	: 4-pin, IEEE 1394 compliant
PHONE	
Headphone output	: ø3.5 mm, stereo
MIC	
External microphone input	: 506 µV (rms), high impedance unbalanced, ø3.5 mm (stereo)
PC (DIGITAL STILL)	
Digital still output	: ø2.5 mm, 3-pole
JLIP/EDIT	: ø3.5 mm, 4-pole
PRINTER	: For an optional video printer equipped with a PRINT DATA connector

AC Power Adapter/Charger AA-V67EA, AA-V67A, AA-V67AS or AA-V67SH

Power requirement	: AC 110 V to 240 V∿, 50 Hz/60 Hz
Power consumption	: 23 W
Output	
Charge	: DC 7.2 V ⎓ , 1.2 A
VTR	: DC 6.3 V ⎓ , 1.8 A
Dimensions (W x H x D)	: 68 mm x 38 mm x 110 mm
Weight	
AA-V67EA	: Approx. 245 g
AA-V67A	: Approx. 245 g
AA-V67AS	: Approx. 245 g
AA-V67SH	: Approx. 300 g

Specifications shown are for SP mode unless otherwise indicated. E & O.E. Design and specifications subject to change without notice.

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No. 86553
May 2000

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5. PARTS LIST

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5.2 MONITOR ASSEMBLY <M5> 5-3

The following table indicate main different points between models GR-DVL9800EG, DVL9800EA, DVL9800A, DVL9800AS and GR-DVL9800SH.

MODEL / ITEM	GR-DVL9800EG	GR-DVL9800EA	GR-DVL9800A	GR-DVL9800AS	GR-DVL9800SH
AC POWER ADAPTER/CHARGER	AA-V67EG	AA-V67EA	AA-V67A	AA-V67AS	AA-V67SH
CONNECTOR, CABLE ADAPTER	Provided	Optional	←	←	←
CONVERSION PLUG	Optional	←	Provided	Optional	←
DV CABLE	Provided	Optional	←	←	←

Note: Mark ← is same as left.

The following table indicate different parts number between models GR-DVL9800EG, DVL9800EA, DVL9800A, DVL9800AS and GR-DVL9800SH.

PACKING ASSEMBLY<M1> Note: As for IB (INSTRUCTIONS), refer to sec. 5

REF NO.	MODEL / ITEM	GR-DVL9800EG	GR-DVL9800EA	GR-DVL9800A	GR-DVL9800AS	GR-DVL9800SH
1	PACKING CASE	LY31642-003A	LY31650-007A	←	←	LY31650-011A
⚠ 4	BATTERY PACK	LY30780-002A	←	LY30780-003A	←	←
17	DV CABLE	QAM0100-002	–	–	–	–
18	CORE FILTER	QQR0918-002	–	–	–	–
23	WARRANTY CARD	BT-54013-1	BT-56001-2	–	–	–
33	CONNECTOR, CABLE ADAPTER	PEMC1000-01-02	–	–	–	–
⚠ 37	SAFETY SHEET	YU30364	–	–	–	–
⚠ 38	CONVERSION PLUG	–	–	PEMC1012-02	–	–
39	CORE FILTER	–	–	QQR0919-002	–	–
40	CAUTION SHEET	–	–	YU42117	–	–
41	SHEET (ATT.)	–	LYT0591-003A	←	←	←
42	SHEET (ATT.)	–	–	LYT0512-029B	←	←
43	SER. NET CARD	–	BT-56002-2	–	–	–

Note: Mark – is not used. Mark ← is same as left.

ELECTRONIC VIEWFINDER ASSEMBLY <M4>

REF NO.	MODEL / ITEM	GR-DVL9800EG	GR-DVL9800A/AS/EA/SH
300	VF UNIT	LY20495-004A	LY20495-003B
313	SHEET (CAUTION) 2	LY42163-002B	–

MONITOR ASSEMBLY <M5>

REF NO.	MODEL / ITEM	GR-DVL9800EG	GR-DVL9800A/AS/EA/SH
⚠500	MONITOR ASSY	LYH20116-002B	LYH20116-005A
519	SCREW	QYSPSPT1730R,X4	QYSPSPT1730R,X2
524	SCREW	–	QYSPSPT1725R,X2

JACK BOARD ASSEMBLY <06>

REF NO.	MODEL / ITEM	GR-DVL9800EG	GR-DVL9800A/AS/EA/SH
PW1	JACK BOARD ASSY	YB10267D1	YB10292A1

CCD BOARD ASSEMBLY <08>

REF NO.	MODEL / ITEM	GR-DVL9800EG	GR-DVL9800A/AS/EA/SH
D5201	ZENER DIODE	–	UDZS6.2B

MPL BOARD ASSEMBLY <14>

REF NO.	MODEL / ITEM	GR-DVL9800EG	GR-DVL9800A/AS/EA/SH
PW	MPL BOARD ASSY	YB10291A-01	YB10292A2

SECTION 6 AC POWER ADAPTER

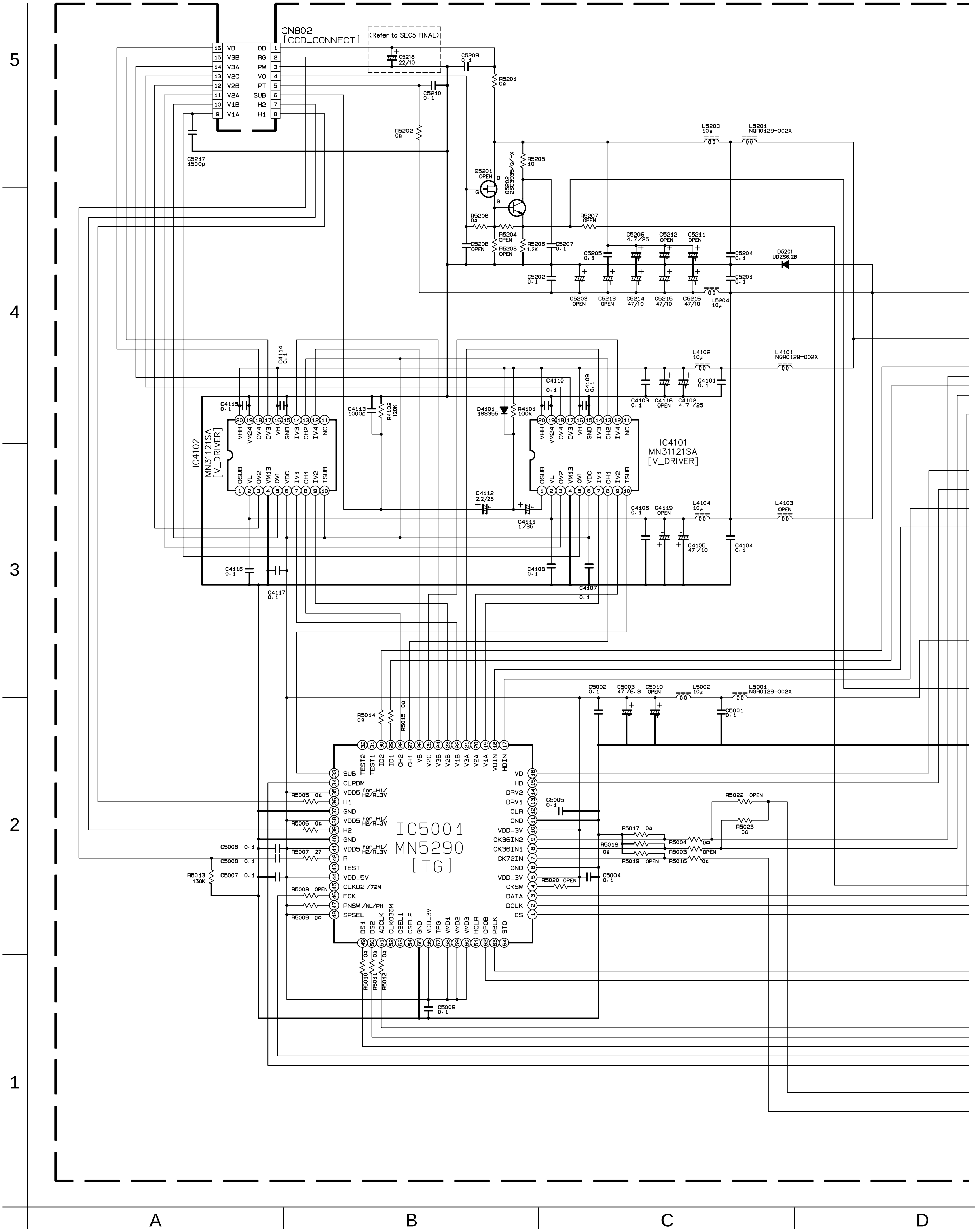
CABINET ASSEMBLY

REF NO.	MODEL / ITEM	GR-DVL9800EG	GR-DVL9800EA/A/AS	GR-DVL9800SH
⚠ 3	AC POWER CORD	YQ10531-006	←	PTY20290-021

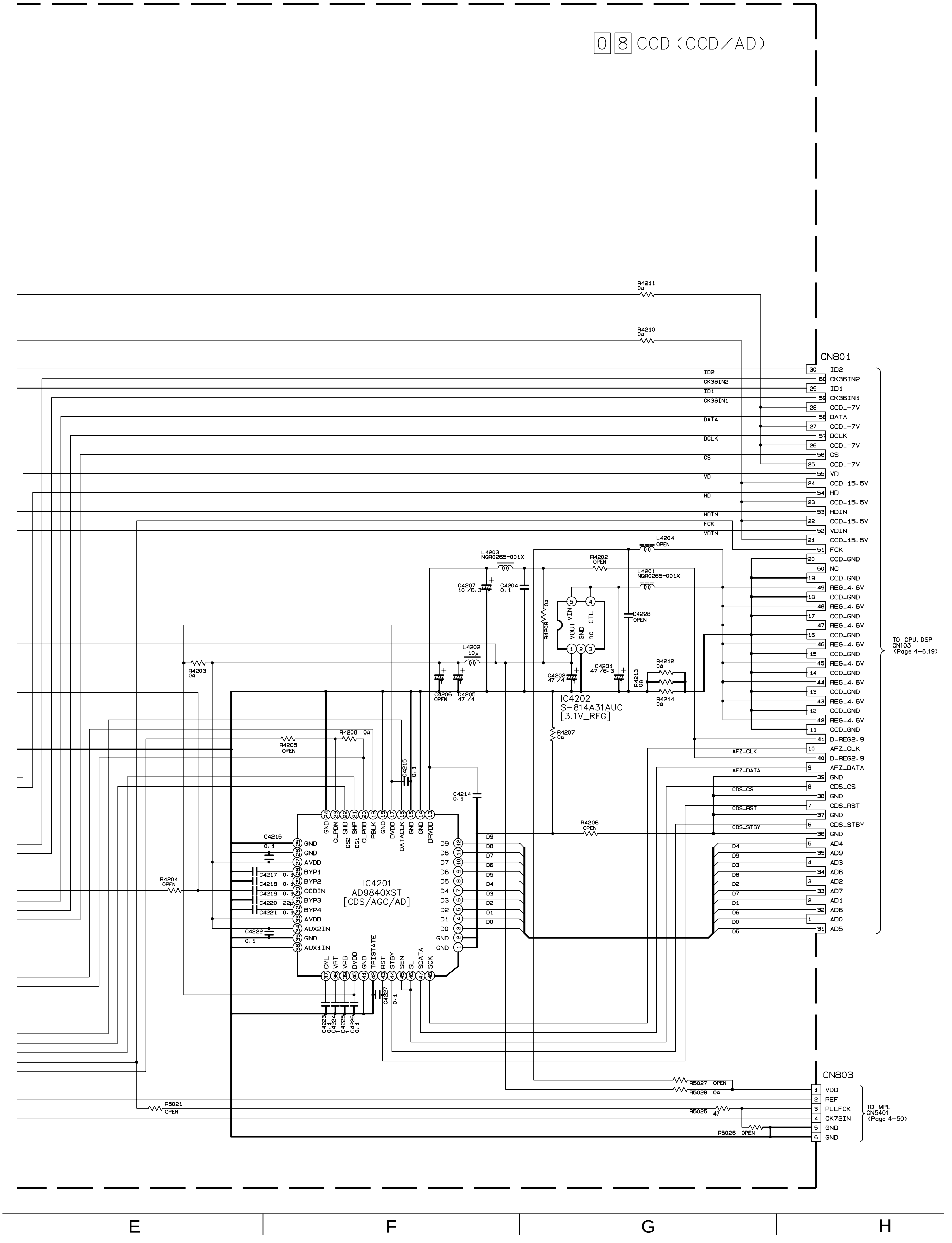
Note: Mark – is not used.

SECTION 4
CHARTS AND DIAGRAMS

4.1 CCD/AD SCHEMATIC DIAGRAM



CN802
[CCD_CONNECT]
VB
V3B
V3A
V2C
V2B
V2A
V1B
V1A
OD
RG
PW
VO
PT
SUB
H2
H1
(Refer to SEC5 FINAL)
C5218 22/10
C5209 0.1
C5210 0.1
R5201 0Ω
R5202 0Ω
C5217 1500p
L5203 10μ
L5201 NQR0129-002X
Q5201 OPEN
Q5202 2SC3935/Q/-X
R5205 10
R5208 0Ω
R5207 OPEN
R5204 OPEN
R5203 OPEN
R5206 1.2K
C5207 0.1
C5208 OPEN
C5206 4.7/25
C5212 OPEN
C5211 OPEN
C5205 0.1
C5204 0.1
D5201 UDZS6.2B
C5202 0.1
C5201 0.1
C5203 OPEN
C5213 OPEN
C5214 47/10
C5215 47/10
C5216 47/10
L5204 10μ
C4114 0.1
C4110 0.1
C4109 0.1
L4102 10μ
L4101 NQR0129-002X
C4115 0.1
C4113 1000p
R4102 120K
D4101 1SS355
R4101 100k
C4103 0.1
C4118 OPEN
C4102 4.7/25
C4101 0.1
IC4102
MN31121SA
[V_DRIVER]
IC4101
MN31121SA
[V_DRIVER]
VHH VM24 OV4 OV3 VH GND IV3 CH2 IV4 NC
OSUB VL OV2 VM13 OV1 VDC IV1 CH1 IV2 ISUB
C4112 2.2/25
C4111 1/35
C4106 0.1
C4119 OPEN
L4104 10μ
L4103 OPEN
C4105 47/10
C4104 0.1
C4116 0.1
C4117 0.1
C4108 0.1
C4107 0.1
C5002 0.1
C5003 47/6.3
C5010 OPEN
L5002 10μ
L5001 NQR0129-002X
C5001 0.1
R5014 0Ω
R5015 0Ω
IC5001
MN5290
[TG]
TEST2 TEST1 ID2 ID1 CH2 CH1 VB V2C V3B V2B V1B V3A V2A V1A VDIN HDIN
SUB
CLPDM
VDD5 for_H1/H2/R_3V
H1
GND
H2
R
TEST
VDD_5V
CLK02 /72M
FCK
PNSW /NL/PH
SPSEL
VD
HD
DRV2
DRV1
CLR
VDD_3V
CK36IN2
CK36IN1
CK72IN
DATA
DCLK
CS
CKSW
DS1 DS2 ADCLK CLK036M CSEL1 CSEL2 GND VDD_3V TRG VMD1 VMD2 VMD3 HCLR CPOB PBLK STO
R5005 0Ω
R5006 0Ω
R5007 27
R5008 OPEN
R5009 0Ω
C5006 0.1
C5008 0.1
C5007 0.1
R5013 130K
C5005 0.1
R5017 0Ω
R5018 0Ω
R5019 OPEN
R5004 0Ω
R5003 OPEN
R5016 0Ω
R5022 OPEN
R5023 0Ω
R5020 OPEN
C5004 0.1
R5010 0Ω
R5011 0Ω
R5012 0Ω
C5009 0.1
5
4
3
2
1
A
B
C
D


08 CCD (CCD/AD)
CN801
ID2
CK36IN2
ID1
CK36IN1
CCD_-7V
DATA
DCLK
CS
VD
CCD_15.5V
HD
HDIN
VDIN
FCK
CCD_GND
NC
REG_4.6V
D_REG2.9
AFZ_CLK
AFZ_DATA
GND
CDS_CS
CDS_RST
CDS_STBY
AD4
AD9
AD3
AD8
AD2
AD7
AD1
AD6
AD0
AD5
TO CPU, DSP CN103 (Page 4-6,19)
IC4201
AD9840XST
[CDS/AGC/AD]
IC4202
S-814A31AUC
[3.1V_REG]
VOUT VIN
GND
CTL
nc
L4201 NQR0265-001X
L4202 10μ
L4203 NQR0265-001X
L4204 OPEN
R4202 OPEN
R4203 0Ω
R4204 OPEN
R4205 OPEN
R4206 OPEN
R4207 0Ω
R4208 0Ω
R4209 0Ω
R4210 0Ω
R4211 0Ω
R4212 0Ω
R4213 0Ω
R4214 0Ω
C4201 47/6.3
C4202 47/4
C4204 0.1
C4205 47/4
C4206 OPEN
C4207 10/6.3
C4214 0.1
C4215 0.1
C4216 0.1
C4217 0.1
C4218 0.1
C4219 0.1
C4220 22p
C4221 0.1
C4222 0.1
C4223 0.1
C4224 0.1
C4225 0.1
C4226 0.1
C4227 0.1
C4228 OPEN
CN803
VDD
REF
PLLFCK
CK72IN
GND
TO MPL CN5401 (Page 4-50)
R5021 OPEN
R5025 47
R5026 OPEN
R5027 OPEN
R5028 0Ω
E
F
G
H

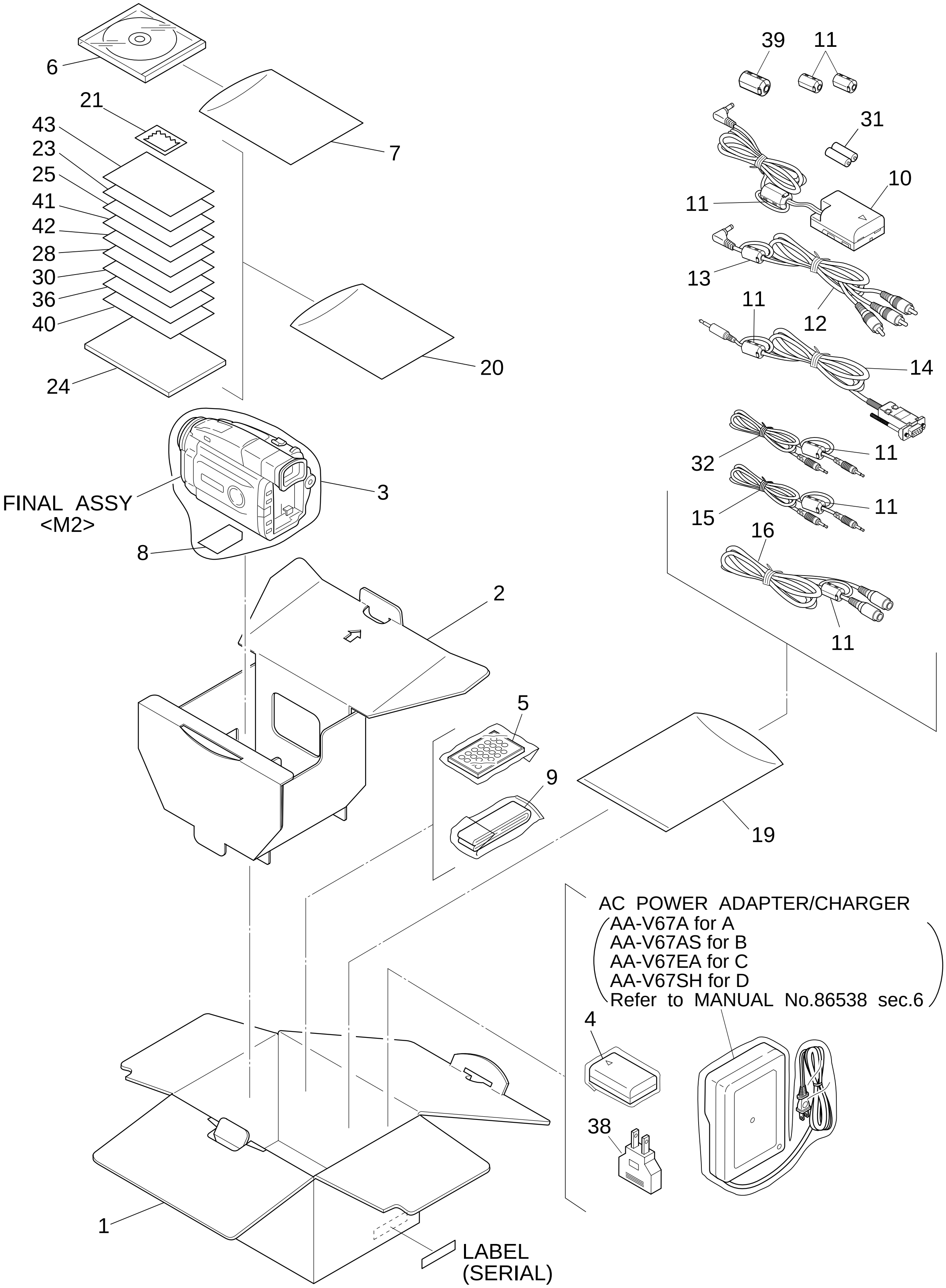
SECTION 5
PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

5.1 PACKING ASSEMBLY <M1>

The instruction manual to be provided with this product will differ according to the destination.


39
11
6
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31
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23
25
41
42
28
30
36
40
7
10
11
13
11
12
14
20
24
32
11
FINAL ASSY
<M2>
3
15
11
16
8
2
11
5
9
19
AC POWER ADAPTER/CHARGER
AA-V67A for A
AA-V67AS for B
AA-V67EA for C
AA-V67SH for D
Refer to MANUAL No.86538 sec.6
4
38
1
LABEL
(SERIAL)

✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻

PACKING ASSEMBLY <M1>

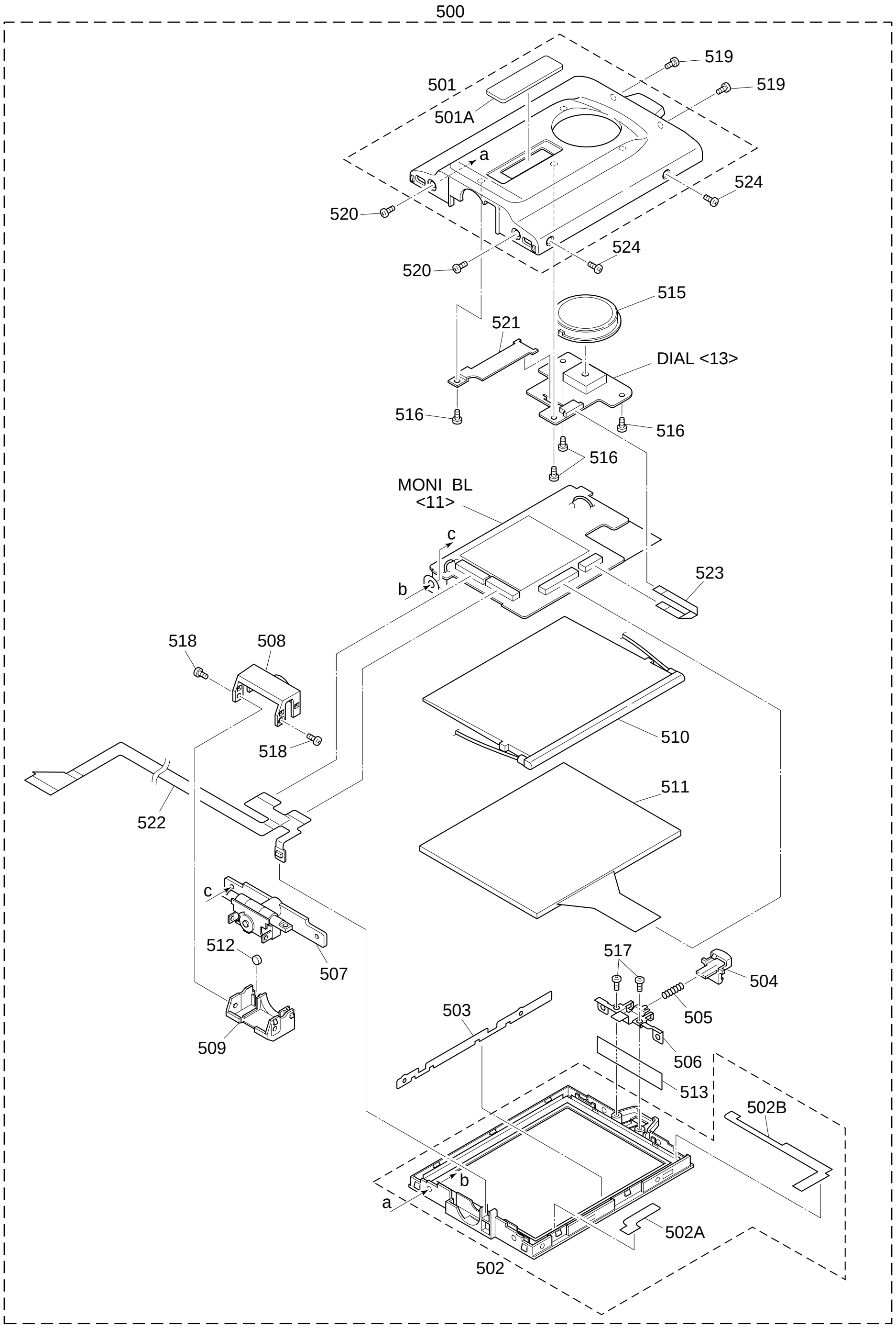
# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	1	LY31650-007A	PACKING CASE,A,B,C
		LY31650-011A	PACKING CASE,D
	2	LY31646-001A	CUSHION
	3	LY30023-008A	POLY BAG
⚠	4	LY30780-002A	BATTERY PACK,C
⚠		LY30780-003A	BATTERY PACK,A,B,D
	5	LY20543-002A	REMOTE CONTROL UNIT
	6	LY31133-010A	CD ROM ASSY
	7	LY30023-010A	POLY BAG
	8	QAM0230-002	MULTIMEDIA CARD
	9	LY20186-001A	SHOULDER STRAP
	10	LY31057-001A	DC CORD
	11	QQR0491-002	CORE FILTER,X7
	12	QAM0212-001	CABLE ASSY,AUDIO/VIDEO CABLE
	13	QQR0918-002	CORE FILTER
	14	QAM0084-001	PC CONNECTION CABLE
	15	QAM0214-001	RM CABLE,EDITING CABLE
	16	QAM0004-004	S CABLE,S-VIDEO CABLE
	19	QPGA017-03005	POLY BAG
	20	QPA02003506	POLY BAG
	21	YQ43558	CLEANING CLOTH
	23	BT-56001-2	WARRANTY CARD,C
⚠	24	LYT0514-001A	IB(EN)
⚠		LYT0514-009A	IB(GE),A,B
⚠		LYT0514-010A	IB(FR),A,B
⚠		LYT0514-002A	IB(CH),A,B,D
⚠		LYT0514-003A	IB(RU),D
⚠		LYT0514-007A	IB(AR),A,B
⚠	25	LYT0516-001A	IB(SOFT.SETUP),A,D
⚠		LYT0515-001A	IB(SOFT.SETUP),C
⚠		LYT0564-001A	IB(SOFT.SETUP),B
	28	LYT0378-003A	SHEET(AGREMENT)
⚠	30	LYT0514-004A	IB(PRINTER.EN)
⚠		LYT0514-011A	IB(PRINTER.GE),A,B
⚠		LYT0514-012A	IB(PRINTER.FR),A,B
⚠		LYT0514-005A	IB(PRINTER.CH),A,B,D
⚠		LYT0514-006A	IB(PRINTER.RU),D
⚠		LYT0514-008A	IB(PRINTER.AR),A,B
	31	–	BATTERY,R03(AAA),X2
	32	QAM0129-001	JLIP CABLE
	36	LYT0162-019A	ACC.LEAFLET
⚠	38	PEMC1012-02	CONVERSION PLUG,A
	39	QQR0919-002	CORE FILTER,A
	40	YU42117	CAUTION SHEET,A
	41	LYT0591-003A	SHEET(ATT.)
	42	LYT0512-029B	SHEET(ATT.)A,B,D
	43	BT-56002-2	SER.NET CARD,C

MODEL	MARK
GR-DVL9800A	A
GR-DVL9800AS	B
GR-DVL9800EA	C
GR-DVL9800SH	D

- **INSTRUCTIONS**

EN .... ENGLISH
FR .... FRENCH
RU ...... RUSSIAN
CH ...... CHINESE
AR .... ARABIAN

5.2 MONITOR ASSEMBLY <M5>


500
519
519
501
501A
a
524
520
524
520
515
521
DIAL <13>
516
516
516
MONI BL
<11>
c
b
523
518
508
518
510
511
522
c
512
507
517
504
503
505
509
506
513
502B
b
a
502A
502

****

MONITOR ASSEMBLY <M5>

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION
⚠	500	LYH20116-005A	MONITOR ASSY
⚠	501	LY31345-002A	MONITOR COVER ASSY
	501A	LY31346-002A	WINDOW
	502	LY31347-001A	MONITOR CASE ASSY
	502A	LY42088-001A	SHEET(1)
	502B	LY42089-001A	SHEET(2)
	503	LY31348-001A	BKT(M.CASE)
	504	LY31349-001B	BUTTON(LOCK)
	505	LY30002-043A	COMPRES. SPRING
	506	LY31350-001A	BKT(BUTTON)
	507	LY31236-002A	HINGE ASSY
	508	LY31351-001A	HINGE COVER(1)
	509	LY31352-001A	HINGE COVER(2)
	510	QLL0069-005	BACK LIGHT
	511	QLD0115-001	LCD MODULE
	512	LY41830-001A	MAGNET
	513	LY30029-001A	SPACER(A)
	515	LY31354-002A	KNOB(REC MODE)
	516	LY30018-063A	SPECIAL SCREW,X4
	517	LY30018-063A	SPECIAL SCREW,X2
	518	LY30018-058A	SPECIAL SCREW,X2
	519	QYSPSPT1730R	SCREW,X2
	520	LY30018-028A	SPECIAL SCREW,X2
	521	LY42126-001B	BACK LIGHT LED
	522	LY31362-001A	FPC ASSY(MONI)
	523	WJT0018-001A	E-CARD WIRE
	524	QYSPSPT1725R	SCREW,X2

VICTOR COMPANY OF JAPAN, LIMITED
VIDEO DIVISION

S40894

Printed in Japan

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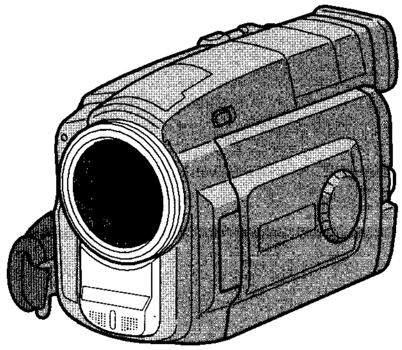
DIGITAL VIDEO CAMERA

GR-DVL9700EG/EK/DVL9800EG/EK



Mini DV PAL

DSC
DIGITAL
STILL CAMERA

SPECIFICATIONS

Camcorder

For General

Power supply	: DC 6.3 V ⎓ (Using AC Power Adapter/Charger) DC 7.2 V ⎓ (Using battery pack)
Power consumption	
LCD monitor off, viewfinder on	: Approx. 4.4 W
LCD monitor on, viewfinder off	: Approx. 5.2 W
Dimensions (W x H x D)	: 77 mm x 94 mm x 142 mm (with the LCD monitor closed and the viewfinder pushed back in)
Weight	: Approx. 620 g (without cassette, MultiMediaCard and battery) Approx. 700 g (incl. cassette, MultiMediaCard and battery)
Operating temperature	: 0°C to 40°C
Operating humidity	: 35% to 80%
Storage temperature	: –20°C to 50°C
Pickup	: 1/3" CCD (Progressive Scan)
Lens	: F 1.8, f = 5 to 50 mm, 10:1 power zoom lens
Filter diameter	: ø37 mm
LCD monitor	: 3.5" diagonally measured, LCD panel/TFT active matrix system
Viewfinder	: Electronic viewfinder with 0.55" colour LCD
Speaker	: Monaural

For Digital Video Camera

Format	: DV format (SD mode)
Signal format	: PAL standard
Recording/Playback format	: Video: Digital component recording : Audio: PCM digital recording, 32 kHz 4-channel (12-bit), 48 kHz 2-channel (16-bit)
Cassette	: Mini DV cassette
Tape speed	: SP: 18.8 mm/s LP: 12.5 mm/s
Maximum recording time (using 80 min. cassette)	: SP: 80 min. LP: 120 min.

For Digital Still Camera

Storage media	: MultiMediaCard
Compression system	: JPEG (compatible)
File size	: 2 modes (XGA: 1024 x 768 pixels/VGA: 640 x 480 pixels)
Picture quality	: 3 modes (FINE/STANDARD/ECONOMY)
Approximate number of storable images (with the provided MultiMediaCard [4 MB])	
FINE	: 25 (VGA), 12 (XGA)
STANDARD	: 50 (VGA), 24 (XGA)
ECONOMY	: 75 (VGA), 36 (XGA)
(with an optional MultiMediaCard [8 MB])	
FINE	: 50 (VGA), 24 (XGA)
STANDARD	: 100 (VGA), 48 (XGA)
ECONOMY	: 150 (VGA), 72 (XGA)

For Connectors

S-VIDEO	
Output	: Y : 1 V (p-p), 75 Ω, analogue C : 0.29 V (p-p), 75 Ω, analogue
Input (GR-DVL9800 only)	: Y : 0.8 V (p-p) – 1.2 V (p-p), 75 Ω, analogue C : 0.2 V (p-p) – 0.4 V (p-p), 75 Ω, analogue
AV	
Video output	: 1 V (p-p), 75 Ω, analogue
Video input (GR-DVL9800 only)	: 0.5 V (p-p) – 2.0 V (p-p), 75 Ω, analogue
Audio output	: 300 mV (rms), 1 kΩ, analogue, stereo
Audio input (GR-DVL9800 only)	: 300 mV (rms), 50 kΩ, analogue, stereo
DV	
Input/output (GR-DVL9800 only)	: 4-pin, IEEE 1394 compliant
Output (GR-DVL9700 only)	: 4-pin, IEEE 1394 compliant
PHONE	
Headphone output	: ø3.5 mm, stereo
MIC	
External microphone input	: 506 µV (rms), high impedance unbalanced, ø.5 mm (stereo)
PC (DIGITAL STILL)	
Digital still output	: ø2.5 mm, 3-pole
JLIP/EDIT	: ø3.5 mm, 4-pole
PRINTER	: For an optional video printer equipped with a PRINT DATA connector

AC Power Adapter/Charger AA-V67EG or AA-V67EK

Power requirement	: AC 110 V to 240 V∿, 50 Hz/60 Hz
Power consumption	: 23 W
Output	
Charge	: DC 7.2 V ⎓, 1.2 A
VTR	: DC 6.3 V ⎓, 1.8 A
Dimensions (W x H x D)	: 68 mm x 38 mm x 110 mm
Weight	
AA-V67EG	: Approx. 245 g
AA-V67EK	: Approx. 300 g

Specifications shown are for SP mode unless otherwise indicated. E & O.E. Design and specifications subject to change without notice.

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No. 86548
February 2000

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The following table lists the differing points between Models GR-DVL9700EG, GR-DVL9700EK, GR-DVL9800EG and GR-DVL9800EK in this series.

	GR-DVL9700EG	GR-DVL9700EK	GR-DVL9800EG	GR-DVL9800EK
BODY COLOR	SILVER	SILVER	LIGHT GOLD	LIGHT GOLD
DV INPUT	NOT USED	NOT USED	USED	USED
AV INPUT	NOT USED	NOT USED	USED	USED
S VIDEO INPUT	NOT USED	NOT USED	USED	USED
DV CABLE	OPTION	OPTION	PROVIDE	PROVIDE
AC POWER ADAPTER/CHARGER	AA-V67EG	AA-V67EK	AA-V67EG	AA-V67EK

Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

●Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the ⚠ symbol and shaded (▨) parts are critical for safety.
Replace only with specified part numbers.
Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Fuse replacement caution notice.
Caution for continued protection against fire hazard.
Replace only with same type and rated fuse(s) as specified.

4. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers
   4) Insulation sheets for transistors
   5) Barrier

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

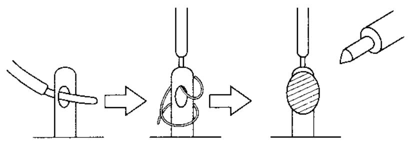


Fig.1

7. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

8. Check that replaced wires do not contact sharp edged or pointed parts.

9. When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.

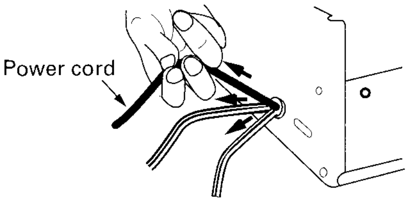


Fig.2

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)
In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector
In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.

   1) **Connector part number** : E03830-001
   2) **Required tool** : Connector crimping tool of the proper type which will not damage insulated parts.
   3) **Replacement procedure**
      (1) Remove the old connector by cutting the wires at a point close to the connector.
      Important : Do not reuse a connector (discard it).

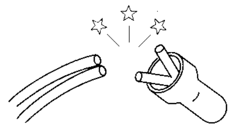


Fig.3

      (2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

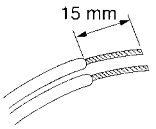


Fig.4

      (3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

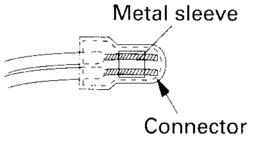


Fig.5

      (4) As shown in Fig.6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

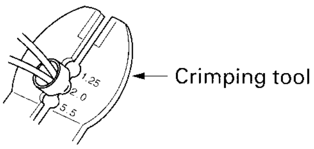


Fig.6

      (5) Check the four points noted in Fig.7.

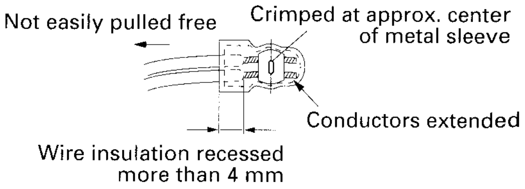

Not easily pulled free
Crimped at approx. center of metal sleeve
Conductors extended
Wire insulation recessed more than 4 mm

Fig.7

● Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions, Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. **Insulation resistance test**
   Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

2. **Dielectric strength test**
   Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

3. **Clearance distance**
   When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.

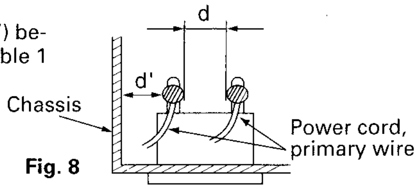


Fig. 8

4. **Leakage current test**
   Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).
   Measuring Method : (Power ON)
   Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure 9 and following table 2.

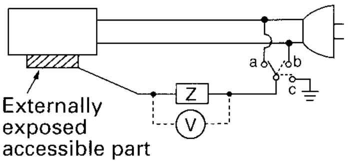


Fig. 9

5. **Grounding (Class I model only)**
   Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).
   Measuring Method:
   Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.

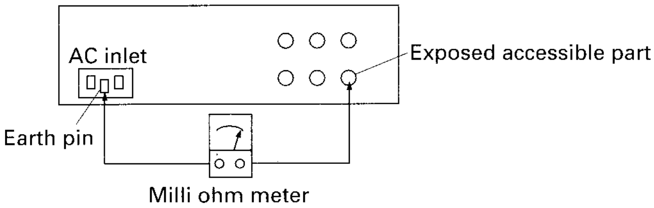


Fig. 10

Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	Z ≦ 0.1 ohm
Europe & Australia	Z ≦ 0.5 ohm

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	R ≧ 1 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3 mm
100 to 240 V			AC 1.5 kV 1 miute	d, d' ≧ 4 mm
110 to 130 V	USA & Canada	1 MΩ ≦R≦ 12 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3.2 mm
110 to 130 V 200 to 240 V	Europe & Australia	R ≧ 10 MΩ/500 V DC	AC 3 kV 1 minute (Class 2) AC 1.5 kV 1 minute (Class 1)	d ≧ 4 mm d' ≧ 8 mm (Power cord) d' ≧ 6 mm (Primary wire)

Table 1 Specifications for each region

AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	1 kΩ	i ≦ 1 mA rms	Exposed accessible parts
110 to 130 V	USA & Canada	0.15 μF 1.5 kΩ	i ≦ 0.5 mA rms	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	2 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Antenna earth terminals
		50 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Other terminals

Table 2 Leakage current specifications for each region

Note: These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

Dear Customer,
Thank you for purchasing this digital video camera. Before use, please read the safety information and precautions contained in the following pages to ensure safe use of this product.

Using This Instruction Manual

- All major sections and subsections are listed in the Table Of Contents on the cover page.
- Notes appear after most subsections. Be sure to read these as well.
- Basic and advanced features/operation are separated for easier reference.

It is recommended that you . . .

.... refer to the Index (☞ pgs. 86 – 91) and familiarize yourself with button locations, etc. before use.

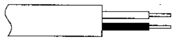
.... read thoroughly the Safety Precautions. They contain extremely important information regarding the safe use of this product.

You are recommended to carefully read the cautions on pages 93 – 95 before use.

SAFETY PRECAUTIONS

IMPORTANT (for owners in the U.K.)

Connection to the mains supply in the United Kingdom.
DO NOT cut off the mains plug from this equipment.
If the plug fitted is not suitable for the power points in your home or the cable is too short to reach a power point, then obtain an appropriate safety approved extension lead or consult your dealer.
BE SURE to replace the fuse only with an identical approved type, as originally fitted, and to replace the fuse cover.
If nonetheless the mains plug is cut off be sure to remove the fuse and dispose of the plug immediately, to avoid possible shock hazard by inadvertent connection to the mains supply.
If this product is not supplied fitted with a mains plug then follow the instructions given below:
DO NOT make any connection to the Larger Terminal coded E or Green.
The wires in the mains lead are coloured in accordance with the following code:



If these colours do not correspond with the terminal identifications of your plug, connect as follows:
Blue wire to terminal coded N (Neutral) or coloured black.
Brown wire to terminal coded L (Live) or coloured Red.
If in doubt — consult a competent electrician.

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

CAUTIONS:

- To prevent shock, do not open the cabinet. No user serviceable parts inside. Refer servicing to qualified personnel.
- When you are not using the AC Power Adapter/Charger for a long period of time, it is recommended that you disconnect the power cord from AC outlet.

NOTES:

- *The rating plate (serial number plate) and safety caution are on the bottom and/or the back of the main unit.*
- *The rating plate (serial number plate) of the AC Power Adapter/Charger is on its bottom.*

This camcorder is designed to be used with PAL-type colour television signals. It cannot be used for playback with a television of a different standard. However, live recording and LCD monitor/viewfinder playback are possible anywhere. Use the BN-V607U/V615U/V628U battery packs and, to recharge them, the provided multi-voltage AC Power Adapter/Charger. (An appropriate conversion adapter may be necessary to accommodate different designs of AC outlets in different countries.)

When the equipment is installed in a cabinet or on a shelf, make sure that is has sufficient space on all sides to allow for ventilation (10 cm or more on both sides, on top and at the rear).
Do not block the ventilation holes.
(If the ventilation holes are blocked by a newspaper, or cloth etc. heat may not be able to get out.)
No naked flame sources, such as lighted candles, should be placed on the apparatus.
When discarding batteries, environmental problems must be considered and local rules or laws governing the disposal of these batteries must be followed strictly.
The apparatus shall not be exposed to dripping or splashing.
Do not use this equipment in a bathroom or places with water.
Also do not place any containers filled with water or liquids (such as cosmetics or medicines, flower vases, potted plants, cups etc.) on top of this unit.
(If water or liquid is allowed to enter this equipment, fire or electric shock may be caused.)

Do not point the lens or the viewfinder directly into the sun. This can cause eye injuries, as well as lead to the malfunctioning of internal circuitry. There is also a risk of fire or electric shock.

CAUTION!

The following notes concern possible physical damage to the camcorder and to the user.

When carrying, be sure to always securely attach and use the provided shoulder strap. Carrying or holding the camcorder by the viewfinder and/or the LCD monitor can result in dropping the unit, or in a malfunction.

Take care not to get your finger caught in the cassette holder cover. Do not let children operate the camcorder, as they are particularly susceptible to this type of injury.

Do not use a tripod on unsteady or unlevel surfaces. It could tip over, causing serious damage to the camcorder.

CAUTION!

Connecting cables (Audio/Video, S-Video, Editing, DC, etc.) to the camcorder and leaving the unit on top of the TV is not recommended, as tripping on the cables will cause the camcorder to fall, resulting in damage.

Mini DV PAL   ***MultiMediaCard***

- This camcorder is designed exclusively for the digital video cassette and MultiMediaCard. Only cassettes marked "Mini DV" and memory cards marked "***MultiMediaCard***" can be used with this unit.

Before recording an important scene . . .

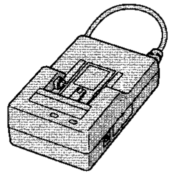
.... make sure you only use cassettes with the Mini DV mark Mini DV.

.... make sure you only use memory cards with the mark ***MultiMediaCard***.

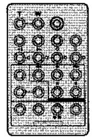
.... remember that this camcorder is not compatible with other digital video formats.

.... remember that this camcorder is intended for private consumer use only. Any commercial use without proper permission is prohibited. (Even if you record an event such as a show, performance or exhibition for personal enjoyment, it is strongly recommended that you obtain permission beforehand.)

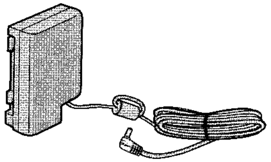
PROVIDED ACCESSORIES



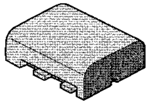
- **AC Power Adapter/Charger AA-V67EG or AA-V67EK**



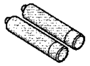
- **Remote Control Unit RM-V716U**



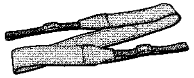
- **DC Cord**



- **Battery Pack BN-V607U**

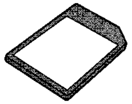


- **R03 (AAA) Battery x 2 (for remote control unit)**

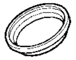


- **Shoulder Strap**

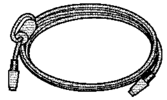
- **Cleaning Cloth**



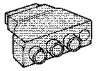
- **MultiMediaCard (4 MB) (Already inserted in the camcorder)**



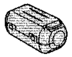
- **Lens Protector (Already attached to the camcorder)**



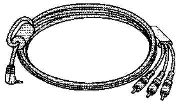
- **S-Video Cable**



- **Cable Adapter**



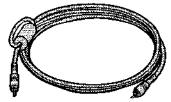
- **Core Filter (for optional DV cable, GR-DVL9700 only)**



- **Audio/Video Cable (ø3.5 mini-plug to RCA plug)**

- **JLIP Cable (Both plugs have 3 rings around the pin.)**

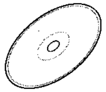
- **Core Filter x 2 (for an optional external microphone and headphones)**



- **Editing Cable (One plug has 3 rings around the pin, and the other has 1 ring around the pin.)**

- **PC Connection Cable**

- **DV Cable (GR-DVL9800 only)**

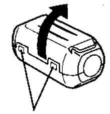
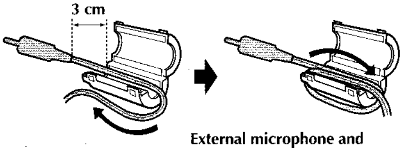
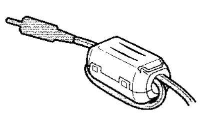


- **CD-ROM**
  The CD ROM contains the following 7 software programs:
  - **JLIP Video Capture**
  - **JLIP Video Producer**
  - **Picture Navigator (for Windows®)**
  - **Picture Navigator (for Macintosh®)**

  Presto!
  - **Mr. Photo**
  - **PhotoAlbum**
  - **ImageFolio**

How To Attach Core Filters

Attach the provided Core Filters to an optional DV cable (GR-DVL9700 only), external microphone or headphones. Core Filters reduce interference.

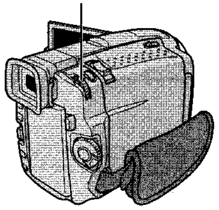
1	*2*	*3*
 Stopper	 3 cm **External microphone and headphones: wind once** **DV cable: wind twice**	
Release the stoppers on both ends of the Core Filter.	Run the cable through the Core Filter, leaving approx. 3 cm of cable between the cable plug and the Core Filter. Wind the cable around the outside of the Core Filter as shown in the illustration. • Wind the cable so that it is not slack. **NOTE:** Take care not to damage the cable.	Close the Core Filter until it clicks shut.

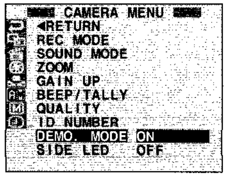
- ■ When connecting cables, attach the end with the Core Filter to the camcorder.

AUTOMATIC DEMONSTRATION

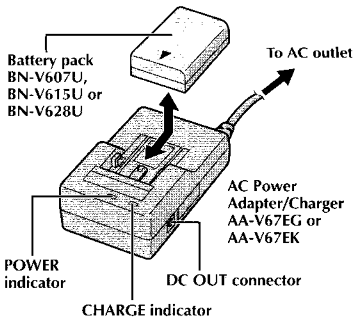
Automatic Demonstration takes place when "DEMO. MODE" is set to "ON" (factory-preset).

- ■ Available when the Power Switch is set to " A " or " M " and no cassette is in the camcorder.
- ■ Performing any operation during the demonstration stops the demonstration temporarily. If no operation is performed for more than 1 minute after that, the demonstration will resume.
- ■ "DEMO. MODE" remains "ON" even if the camcorder power is turned off.
- ■ To cancel Automatic Demonstration, set the Power Switch to " M " and press **MENU/BRIGHT** twice while the demo is in progress. This takes you directly to the demo mode's Setting Menu (so you will not have to go through the Menu Screen). Rotate **MENU/BRIGHT** to select "OFF" and press it. The normal screen appears.





CAMERA MENU
◀RETURN
REC MODE
SOUND MODE
ZOOM
GAIN UP
BEEP/TALLY
QUALITY
ID NUMBER
DEMO. MODE ON
SIDE LED OFF



Battery pack	Charging time
BN-V607U	approx. 1 hr. 30 min.
BN-V615U (optional)	approx. 3 hrs.
BN-V628U (optional)	approx. 3 hrs. 20 min.

Power

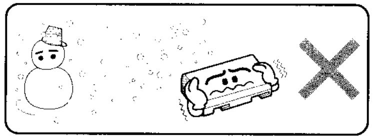
This camcorder's 2-way power supply system lets you choose the most appropriate source of power. Do not use provided power supply units with other equipment.

CHARGING THE BATTERY PACK

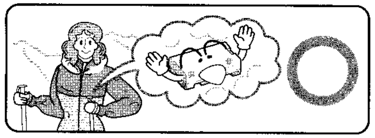
1. Make sure you unplug the camcorder's DC cord from the AC Power Adapter/Charger. Plug the AC Adapter/Charger's power cord into an AC outlet. The POWER indicator lights.
2. Attach the battery pack with the ⊕ ⊖ mark aligned with the corresponding marks on the AC Power Adapter/Charger. The CHARGE Indicator begins blinking to indicate charging has started.
3. When the CHARGE indicator stops blinking but stays lit, charging is finished. Slide the battery and lift off. Remember to unplug the AC Adapter/Charger's power cord from the AC outlet.

NOTES:

- *Perform charging where the temperature is between 10°C and 35°C. 20°C to 25°C is the ideal temperature range for charging. If the environment is too cold, charging may be incomplete.*
- *Charging times noted above are for a fully discharged battery pack.*
- *Charging time varies according to the ambient temperature and the status of the battery pack.*
- *To avoid interference with reception, do not use the AC Power Adapter/Charger near a radio.*
- *If you connect the camcorder's DC cord to the adapter during battery charging, power is supplied to the camcorder and charging stops.*
- *Since the AC Power Adapter/Charger processes electricity internally, it becomes warm during use. Be sure to use it only in well-ventilated areas.*
- *When charging the battery pack for the first time or after a long storage period, the CHARGE indicator may not light. In this case, remove the battery pack from the AC Power Adapter/Charger, then try charging again.*
- *If the battery operation time remains extremely short even after having been fully charged, the battery is worn out and needs to be replaced. Please purchase a new one.*



Lithium-ion is vulnerable in colder temperatures.



About Batteries

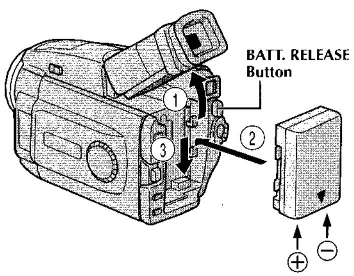
DANGER! Do not attempt to take the batteries apart, or expose them to flame or excessive heat, as it may cause a fire or explosion.

WARNING! Do not allow the battery or its terminals to come in contact with metals, as this can result in a short circuit and possibly start a fire.

The Benefits Of Lithium-Ion Batteries

Lithium-ion battery packs are small but have a large power capacity. However, when one is exposed to cold temperatures (below 10°C), its usage time becomes shorter and it may cease to function. If this happens, place the battery pack in your pocket or other warm, protected place for a short time, then re-attach it to the camcorder. As long as the battery pack itself is not cold, it should not affect performance.

(If you're using a heating pad, make sure the battery pack does not come in direct contact with it.)



ATTENTION:
Before detaching the power source, make sure that the camcorder's power is turned off. Failure to do so can result in a camcorder malfunction.

INFORMATION:

VU-V856KIT is a set composed of the BN-V856U battery pack and AA-V80EG or AA-V80EK AC Power Adapter/Charger.
Read the VU-V856KIT's instruction manuals before using.
It is impossible to charge the BN-V856U battery pack using the provided AC Power Adapter/Charger. Use the optional AA-V80EG or AA-V80EK AC Power Adapter/Charger.

USING THE BATTERY PACK

1. Tilt the viewfinder upward ①.
2. With the arrow on the battery pack pointing downward, push the battery pack slightly against the battery pack mount ②, then slide down the battery pack to attach it ③.
   - If the battery pack is attached with its ⊕ ⊖ mark set in the wrong direction, a malfunction may occur.

To Detach The Battery Pack. . .
.... tilt the viewfinder upward ① and slide the battery pack up slightly while pressing **BATT. RELEASE** to detach it.

Approximate recording time

Battery pack	LCD monitor on/ Viewfinder off	LCD monitor off/ Viewfinder on
BN-V607U	1hr. 5 min.	1 hr. 20 min.
BN-V615U (optional)	2 hrs. 10 min.	2 hrs. 40 min.
BN-V628U (optional)	3 hrs. 50 min.	4 hrs. 30 min.
BN-V856U (optional)	7 hrs. 30 min.	9 hrs.

NOTES:

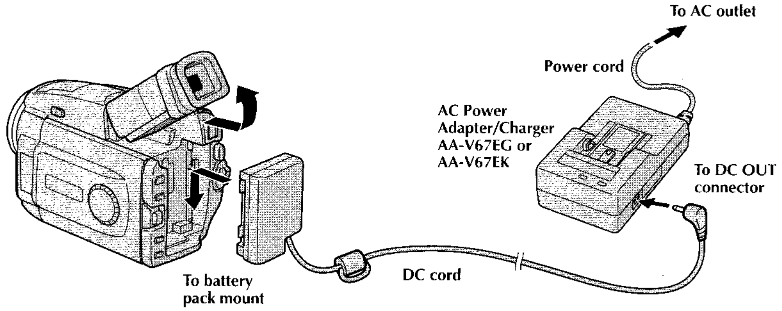
- *Recording time is reduced significantly under the following conditions:*
  - *Zoom or Record-Standby mode is engaged repeatedly.*
  - *The LCD monitor is used repeatedly.*
- *Before extended use, it is recommended that you prepare enough battery packs to cover 3 times the planned shooting time.*

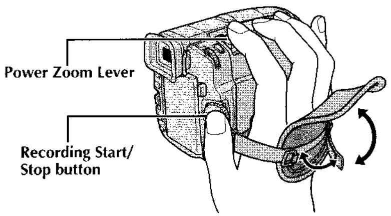
USING AC POWER

Use the AC Power Adapter/Charger (connect as shown in the illustration).

NOTES:

- *The provided AC Power Adapter/Charger features automatic voltage selection in the AC range from 110 V to 240 V.*
- *For other notes, ☞ pg. 6.*



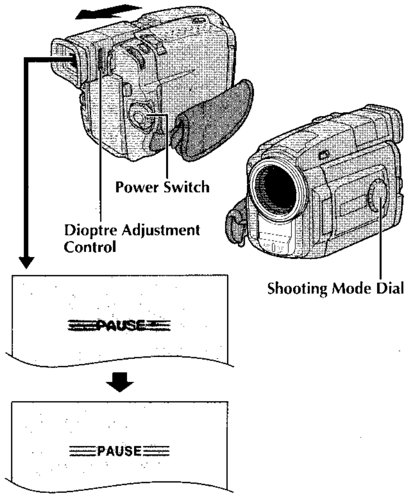

Power Zoom Lever
Recording Start/
Stop button

Grip Adjustment

1 Separate the Velcro strip.

2 Pass your right hand through the loop and grasp the grip.

3 Adjust so that your thumb and fingers can easily operate the Recording Start/Stop Button and Power Zoom Lever. Refasten the Velcro strip.

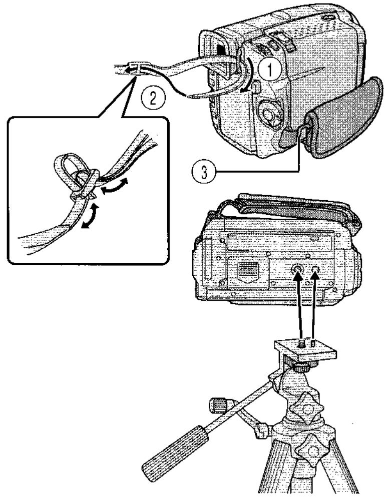

Power Switch
Dioptre Adjustment
Control
Shooting Mode Dial
PAUSE
PAUSE

Viewfinder Adjustment

1 Set the Power Switch to "A" or "M" while pressing down the Lock Button located on the switch. Set the Shooting Mode Dial to any position.

2 Pull out the viewfinder fully and adjust it manually for best viewability.

3 Slide the Dioptre Adjustment Control until the indications in the viewfinder are clearly focused.



Shoulder Strap Attachment

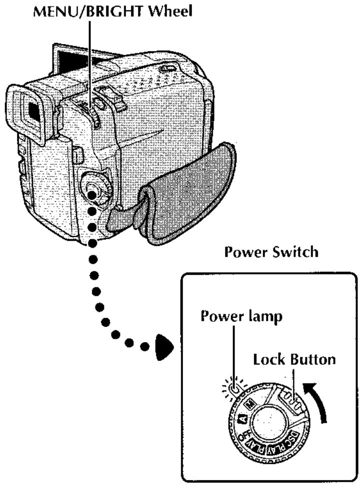
1 Following the illustration, thread the strap through the eyelet ①, then fold it back and thread it through the buckle ②. Repeat the procedure to attach the other end of the strap to the other eyelet ③, making sure the strap is not twisted.

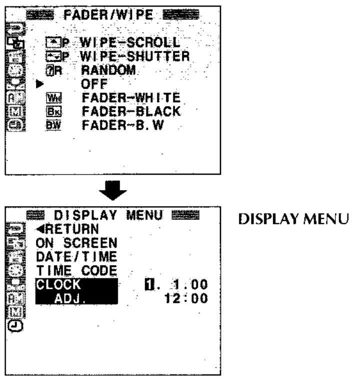
Tripod Mounting

1 Align the screw and camera direction stud on the tripod with the camera's mounting socket and stud hole. Then tighten the screw.
- Some tripods are not equipped with studs.

CAUTION:

When using a tripod, be sure to open and extend its legs fully to stabilise the camcorder. To prevent damage to the unit caused by falling over, do not use a small-sized tripod.


MENU/BRIGHT Wheel
Power Switch
Power lamp
Lock Button


Display
FADER/WIPE
WIPE–SCROLL
WIPE–SHUTTER
RANDOM
OFF
FADER–WHITE
FADER–BLACK
FADER–B.W
DISPLAY MENU
◄RETURN
ON SCREEN
DATE/TIME
TIME CODE
CLOCK ADJ.
1. 1.00
12:00
DISPLAY MENU

Date/Time Settings

The date/time is recorded onto the tape at all times, but its display can be turned on or off during playback (☞ pg. 46).

1 Set the Power Switch to "M" while pressing down the Lock Button located on the switch, and open the LCD monitor fully or pull out the viewfinder fully. The power lamp lights and the camcorder is turned on.

2 Press **MENU/BRIGHT**. The Menu Screen appears.

3 Rotate **MENU/BRIGHT** to select "▣". Press it and "DISPLAY MENU" appears.

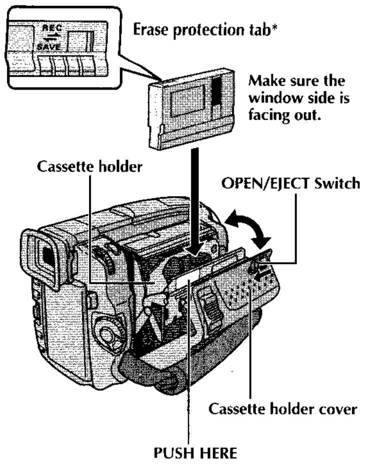
4 Rotate **MENU/BRIGHT** to select "CLOCK ADJ.". Press it and "day" is highlighted.
Rotate **MENU/BRIGHT** to input the day. Press it. Repeat to input the month, year, hour and minute. When the highlight bar is on "◄RETURN", press **MENU/BRIGHT** twice.

Built-in Clock's Rechargeable Lithium Battery

To store the date/time in memory, the clock's rechargeable lithium battery is integrated in the camcorder. While the camcorder is connected to an AC outlet using the AC Power Adapter/Charger, or while the battery pack attached to the camcorder continues to supply power, the clock's rechargeable lithium battery is always charged. However, if the camcorder is not used for approx. 3 months, the clock's lithium battery will become discharged and the date/time stored in memory will be lost. When this occurs, first connect the camcorder to an AC outlet using the AC Power Adapter/Charger for over 24 hours to charge the clock's rechargeable lithium battery. Then perform the date/time setting before using the camcorder.
Note that the camcorder can be used without setting the date/time.

NOTE:

Even if you select "CLOCK ADJ.", if the parameter is not highlighted the camcorder's internal clock continues to operate. Once you move the highlight bar to the first date/time parameter (day), the clock stops. When you finish setting the minute and press ***MENU/BRIGHT****, the date and time begin operation from the date and time you just set.*



**** To Protect Valuable Recordings . . .***

.... slide the erase protection tab on the back of the tape in the direction of "SAVE". This prevents the tape from being recorded over. To record on this tape, slide the tab back to "REC" before loading it.

Loading/Unloading A Cassette

The camcorder needs to be powered up to load or eject a cassette.

1 Slide **OPEN/EJECT** in the direction of the arrow then swing the cassette holder cover open until it locks. The cassette holder opens automatically.
- Do not touch internal components.

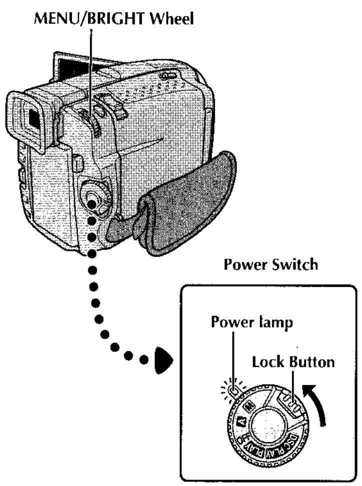
2 Insert or remove a tape and press "PUSH HERE" to close the cassette holder.
- Once the cassette holder is closed, it recedes automatically. Wait until it recedes completely before closing the cassette holder cover.
- When the battery's charge is low, you may not be able to close the cassette holder cover. Do not apply force. Replace the battery with a fully charged one before continuing.

3 Close the cassette holder cover firmly until it locks into place.

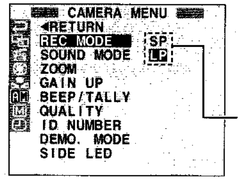
Approximate recording time

Tape	Recording mode	
	SP	LP
30 min.	30 min.	45 min.
60 min.	60 min.	90 min.
80 min.	80 min.	120 min.

NOTES:
- *It takes a few seconds for the cassette holder to open. Do not apply force.*
- *If you wait a few seconds and the cassette holder does not open, close the cassette holder cover and try again. If the cassette holder still does not open, turn the camcorder off then on again.*
- *If the tape does not load properly, open the cassette holder cover fully and remove the cassette. A few minutes later, insert it again.*
- *When the camcorder is suddenly moved from a cold place to a warm environment, wait a short time before opening the cassette holder cover.*
- *Closing the cassette holder cover before the cassette holder comes out may cause damage to the camcorder.*
- *Even when the camcorder is switched off, a cassette can be loaded or unloaded. After the cassette holder is closed with the camcorder switched off, however, it may not recede. It is recommended to turn the power on before loading or unloading.*
- *When resuming recording, once you open the cassette holder cover a blank portion will be recorded on the tape or a previously recorded scene will be erased (recorded over) regardless of whether the cassette holder came out or not. See page 23 for information about recording from the middle of a tape.*



Display



Recording Mode Setting

Set the tape recording mode depending on your preference.

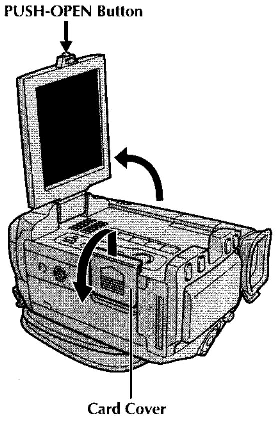
1 Set the Power Switch to "M" while pressing down the Lock Button located on the switch, and open the LCD monitor fully or pull out the viewfinder fully. The power lamp lights and the camcorder is turned on.

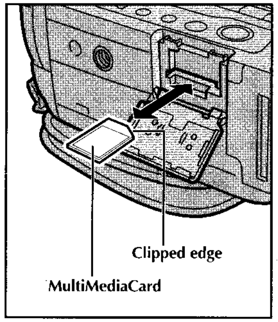
2 Press **MENU/BRIGHT**. The Menu Screen appears.

3 Rotate **MENU/BRIGHT** to select "AM" and press it. "CAMERA MENU" appears.

4 Rotate **MENU/BRIGHT** to select "REC MODE" and press it. The Sub Menu appears. Select "SP" or "LP" by rotating **MENU/BRIGHT** and press it. Rotate **MENU/BRIGHT** to select "◀RETURN", and press it twice. The Menu Screen closes.
- Audio Dubbing is impossible on a tape recorded in the LP mode.
- "LP" (Long Play) is more economical, providing 1.5 times the recording time.

NOTES:
- *If the recording mode is switched during recording, the playback picture will be blurred at the switching point.*
- *It is recommended that tapes recorded in the LP mode on this camcorder be played back on this camcorder.*
- *During playback of a tape recorded on another camcorder, blocks of noise may appear or there may be momentary pauses in the sound.*


PUSH-OPEN Button
Card Cover


Clipped edge
MultiMediaCard

Loading A MultiMediaCard

The provided MultiMediaCard is already inserted in the camcorder when you receive the camcorder.

1. Make sure the camcorder's power is off.
2. Press **PUSH-OPEN** and open the LCD monitor, then open the card cover (**MEMORY CARD**).
3. Insert the MultiMediaCard clipped edge first, with the label facing up.
   - Do not touch the terminal on the reverse side of the label.
4. To close the card cover, push it until you hear a click.

NOTES:

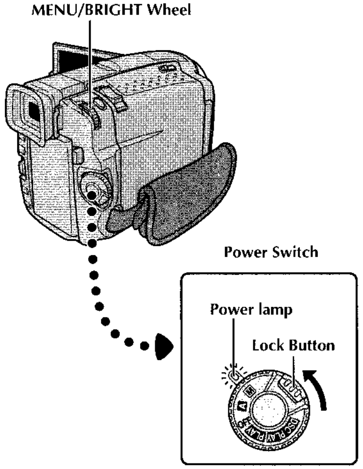
- *Be sure to use only MultiMediaCards marked "**MultiMediaCard**".*
- *Some brands of MultiMediaCards are not compatible with this camcorder. Before purchasing a MultiMediaCard, consult its manufacturer or dealer.*

To Unload A MultiMediaCard . . .

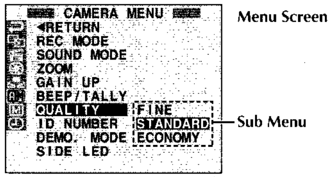
.... in step **3** push the MultiMediaCard, which then comes out of the camcorder automatically. Pull it out and close the card cover.

ATTENTION:

Do not insert/remove the MultiMediaCard while the camcorder is turned on, as this may cause the MultiMediaCard to be corrupted or cause the camcorder to become unable to recognize whether or not the card is installed.


MENU/BRIGHT Wheel
Power Switch
Power lamp
Lock Button

Display


CAMERA MENU
◄RETURN
REC MODE
SOUND MODE
ZOOM
GAIN UP
BEEP/TALLY
QUALITY
ID NUMBER
DEMO. MODE
SIDE LED
FINE
STANDARD
ECONOMY
Menu Screen
Sub Menu

Picture Quality Mode Setting

The Picture Quality mode can be selected to best match your needs. Three Picture Quality modes are available: FINE, STANDARD and ECONOMY (in order of quality).

1. Set the Power Switch to "M" while pressing down the Lock Button located on the switch, and open the LCD monitor fully or pull out the viewfinder fully. The power lamp lights and the camcorder is turned on.
2. Press **MENU/BRIGHT**. The Menu Screen appears.
3. Rotate **MENU/BRIGHT** to select "AM" and press it. "CAMERA MENU" appears.
4. Rotate **MENU/BRIGHT** to select "QUALITY" and press it. The Sub Menu appears. Rotate **MENU/BRIGHT** to select the desired mode and press it. Rotate **MENU/BRIGHT** to select "◄RETURN", and press it twice. The Menu Screen closes.

NOTE:

The number of storable images depends on the selected Picture Quality mode, Shooting mode (VGA or XGA, ☞ pg. 15) as well as the composition of the subjects in the images.

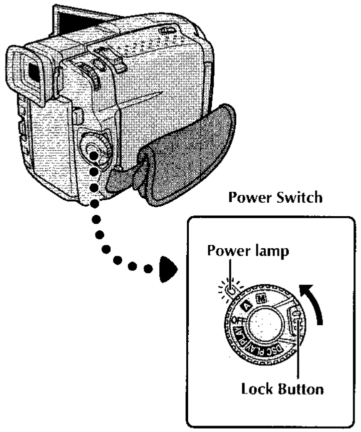
Approximate Number of Storable Images for VGA mode

Picture Quality Mode	MultiMediaCard	
	4 MB (provided)	8 MB (optional)
FINE	25	50
STANDARD	50	100
ECONOMY	75	150

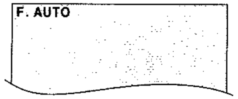
Approximate Number of Storable Images for XGA mode

Picture Quality Mode	MultiMediaCard	
	4 MB (provided)	8 MB (optional)
FINE	12	24
STANDARD	24	48
ECONOMY	36	72

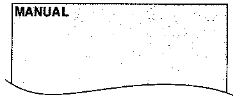
To turn on the camcorder, first set the Power Switch to any operation mode except "OFF", then pull out the viewfinder fully or open the LCD monitor fully. When setting the Power Switch, press and hold the Lock Button.



According to the Power Switch position you have selected, "F.AUTO" or "MANUAL" appears in the upper left corner.



When set to "A"



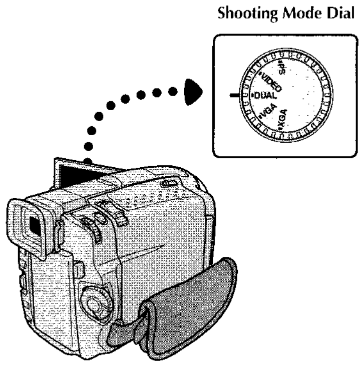
When set to "M"

If the Power Switch is set to "PLAY" or "DSC PLAY", these indications do not appear.

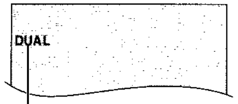
Operation Mode

Turning the Power Switch and Shooting Mode Dial allows you to choose the appropriate operation mode from among the following table and the one on pg. 15:

Power Switch Position	Function
Manual: M	Allows you to set various recording functions using the Menus. If you want more creative capabilities than Full Auto recording, try this mode.
Full Auto: A	Allows you to record using NO special effects or manual adjustments. Suitable for standard recording.
OFF	Allows you to switch off the camcorder.
PLAY	Allows you to play back a recording on the tape or to transfer a still image recorded on the tape or in the MultiMediaCard to a computer.
DSC PLAY	Allows you to display an image stored in the MultiMediaCard.



The following indications appear in the upper left corner, depending on the Shooting Mode Dial position.



—DUAL : When set to "DUAL"

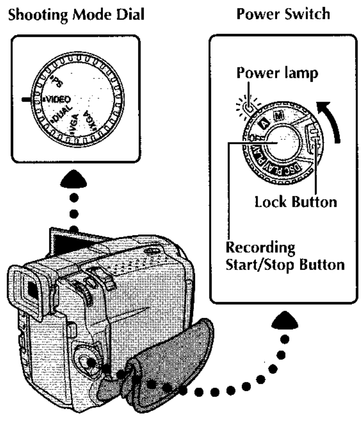
—No display : When set to "VIDEO"

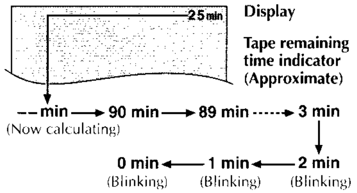
—PS : When set to "PS"

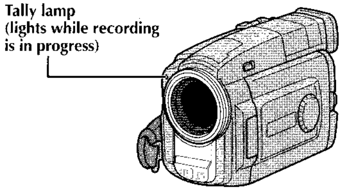
—VGA : When set to "VGA"

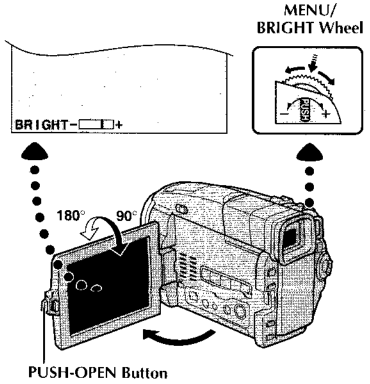
—XGA : When set to "XGA"

Shooting Mode Dial Position	Function
DUAL	• Allows you to record video on a tape and store still images in a MultiMediaCard simultaneously (☞ pg. 26). • File size of still images: 640 x 480 pixels • Video quality is the same as in the VIDEO mode.
VIDEO	• Allows you to record video and still images on a tape. Approx. 6 seconds of a still image is inserted between video recordings (☞ pg. 18). • Zoom magnification over 10X is available (☞ pg. 22, 31).
PS (Progressive mode)	• Allows you to record moving images (successive jitter-free still images) with superior quality on a tape (☞ pg. 24). The still images can also be processed on a PC or printed out. • Zoom magnification over 10X is available (☞ pg. 22, 31). • Playback of images recorded in this mode is not smooth.
VGA	• Suitable for shooting many images in a MultiMediaCard (☞ pg. 13, 20). • File size: 640 x 480 pixels
XGA	• Allows you to record still images in a MultiMediaCard at high resolution (☞ pg. 13, 20). Suitable for recording still images with superior quality. • File size: 1024 x 768 pixels




25min
Display
Tape remaining time indicator (Approximate)
-- min → 90 min → 89 min ----→ 3 min
(Now calculating)
0 min ← 1 min ← 2 min
(Blinking) (Blinking) (Blinking)





NOTE:

You should already have performed the procedures listed below. If not, do so before continuing.

- *Power (☞ pg. 6)*
- *Grip Adjustment (☞ pg. 8)*
- *Viewfinder Adjustment (☞ pg. 8)*
- *Load A Cassette (☞ pg. 10)*
- *Recording Mode Setting (☞ pg. 11)*

1 Set the Shooting Mode Dial to "VIDEO", then set the Power Switch to "A" or "M" while pressing down the Lock Button located on the switch.

Shooting while using the viewfinder: Make sure the LCD monitor is closed and locked. Pull out the viewfinder fully.

- Be sure to pull out the viewfinder until you hear a click, otherwise it may be pushed back in during use.

Shooting while using the LCD monitor: Make sure the viewfinder is pushed back in. Press **PUSH-OPEN** and open the LCD monitor fully. Tilt it upward/ downward for best viewability.

- The power lamp lights and the camcorder enters the Record-Standby mode. "PAUSE" is displayed.

2 Press the Recording Start/Stop Button. "REC ▶▶▶" appears while recording is in progress.

To Stop Recording . . .

.... press the Recording Start/Stop Button. The camcorder re-enters the Record-Standby mode.

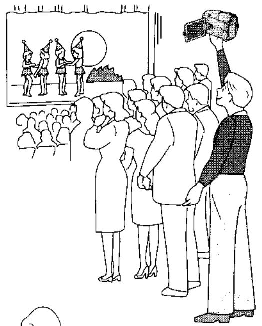
To Adjust The Brightness Of The Display

.... rotate **MENU/BRIGHT** until the bright level indicator on the display moves and the appropriate brightness is reached.

- It is also possible to adjust the brightness of the view-finder:

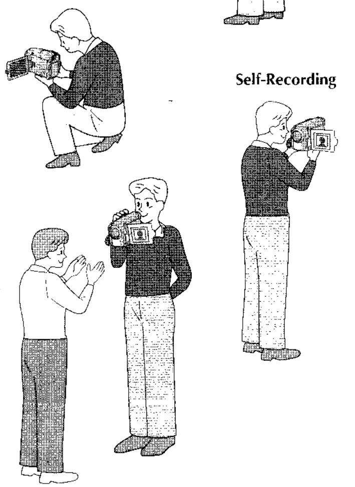
NOTES:

- *When you use the LCD monitor outdoors in direct sunlight, the LCD monitor may be difficult to see. If this happens, use the viewfinder instead.*
- *The image will not appear simultaneously in the LCD monitor and the viewfinder except during Interface Shooting.*
- *The cassette holder cannot be opened unless a power supply is attached.*
- *There may be a delay after you open the cassette holder cover until the cassette holder opens. Do not use force.*
- *Once the cassette holder is closed, it recedes automatically. Wait until it recedes completely before closing the cassette holder cover.*
- *The time required to calculate and display the remaining tape length, and the accuracy of the calculation, may vary according to the type of tape used.*
- *"TAPE END" appears when the tape reaches its end, and the power goes off automatically if left in this condition for 5 minutes. "TAPE END" also appears when a cassette at its end is loaded.*
- *If the Record-Standby mode continues for 5 minutes, the camcorder's power shuts off automatically. To turn the camcorder on again, set the Power Switch to "OFF", then back to "A" or "M".*
- *When a blank portion is left between recorded scenes on the tape, the time code is interrupted and errors may occur when editing the tape. To avoid this, refer to "Recording from the middle of a tape" (☞ pg. 23).*
- *During recording, sound is not heard from the speaker. To hear the sound, connect optional headphones to the PHONE connector. The sound volume is at the level it was adjusted to during playback (☞ pg. 44).*
- ***To turn the tally lamp off during recording, ☞ pg. 30, 31.***
- ***To remove the indications from the camcorder's display during recording, ☞ pg. 30, 33.***



JOURNALISTIC SHOOTING

In some situations, different shooting angles may provide more dramatic results. Hold the camcorder in the desired position and tilt the LCD monitor in the most convenient direction. It can rotate 270° (90° downward, 180° upward).



INTERFACE SHOOTING

The person you shoot can view himself/herself in the LCD monitor, and you can even shoot yourself while viewing your own image in the LCD monitor.

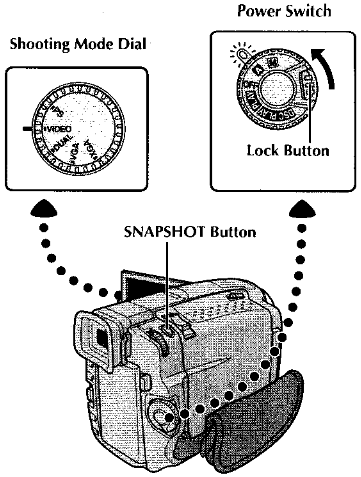
Open the LCD monitor and tilt it upward to 180° so that it faces forward. When the LCD monitor is tilted upward to an angle of over approx. 105°, the monitor image is inverted vertically. If the viewfinder is pulled out at that time, it also switches on.

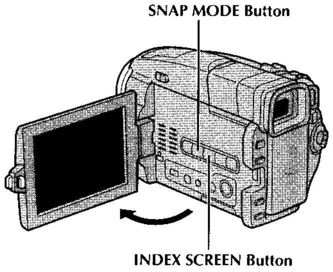
Point the lens toward the subject (yourself when self-recording) and start recording.

During Interface Shooting, the monitor image and indications do not appear inverted as they would when viewing a mirror.

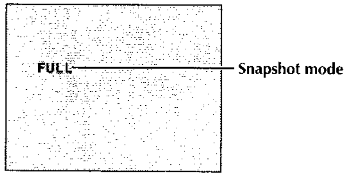
NOTES:

- *During Interface Shooting, the "Tape Running" indicator and warning indications (☞ pg. 88, 89) are the only ones that are shown; they appear reversed in the display as they would when viewing a mirror, but are not reversed in the recording.*
- *The tape remaining indicator does not appear during interface shooting. However, when the remaining time reaches 2 minutes, the indicator appears showing the remaining time: ➡ ⁜ – – ▣ (blinking) ➡ ⁜ – ▣ (blinking) ➡ ⁜ ▣ (blinking)*





Display



Snapshot (For Video Recording)

Use your camcorder like a regular camera and take a snapshot, or several of them in succession.
This feature lets you record still images that look like photographs onto a tape.

SNAPSHOT MODE SELECTION

1. Set the Shooting Mode Dial to "VIDEO" or "PS", then set the Power Switch to " A " or " M " while pressing down the Lock Button located on the switch. Pull out the viewfinder fully or open the LCD monitor fully.

2. Choose the appropriate Snapshot mode from the 6 available by repeatedly pressing **SNAP MODE** until the desired snapshot mode indicator appears.

SNAPSHOT RECORDING

1. Press **SNAPSHOT**.

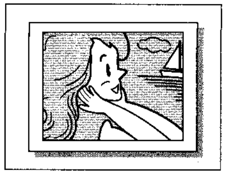
   If you press during Record-Standby . . .
   .... "PHOTO" appears and a still image will be recorded for approx. 6 seconds, then the camcorder re-enters the Record-Standby mode.

   If you press during Recording . . .
   .... "PHOTO" appears and a still image will be recorded for approx. 6 seconds, then the normal recording resumes.

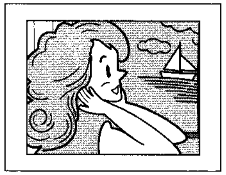
To Use The Flash (☞ pg. 34) . . .
.... slide **FLASH OPEN** in the direction of the arrow printed on the camcorder. The flash is raised. If the flash is not needed, push down the flash.

Motor Drive Mode

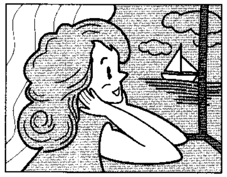
Keeping **SNAPSHOT** pressed provides an effect similar to serial photography. (Interval between still images: approx. 1 second)



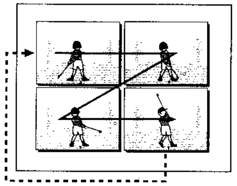
PIN-UP
Pin-Up mode √



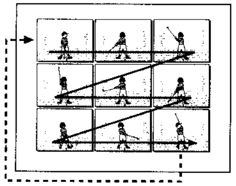
FRAME
Snapshot mode with frame* √



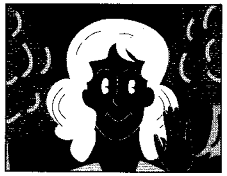
FULL
Snapshot mode with no frame* √



MULTI-4
Multi-Analyser 4



MULTI-9
Multi-Analyser 9



NEGA/POSI
Nega/Posi mode*
√

---

* There is the sound effect of a shutter closing.

√ When the Shooting Mode Dial is set to "PS", snapshot recording will be performed with higher quality (☞ pg. 24).

NOTES:

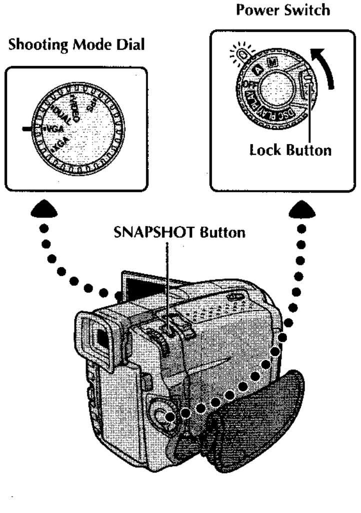
- *To remove the shutter sound, ☞ "BEEP/TALLY" on pg. 31.*
- *If Digital Zoom is used while in the "MULTI-4" or "MULTI-9" mode, Snapshot recording will be performed with 10X magnification.*
- *In Multi-Analyser 4 or Multi-Analyser 9, the flash is disabled (☞ pg. 34).*
- *If Snapshot recording is not possible, "PHOTO" blinks when **SNAPSHOT** is pressed.*
- *If Programme AE with special effects (☞ pg. 40) is engaged, certain modes of Programme AE with special effects are disabled during Snapshot recording. In such a case, the icon blinks.*
- *If **SNAPSHOT** is pressed when "DIS" is set to "ON" (☞ pg. 32), the Stabiliser will be disabled.*
- *To dub images recorded on a tape to a MultiMediaCard, ☞ pg. 67.*
- *The flash is disabled during video recording.*
- *To reduce the Red-Eye effect in the subject's eyes when the flash fires, ☞ pg. 34.*
- *During playback as well, all snapshot modes except Nega/Posi mode are available when "📼 ➡ M COPY" is set to "OFF" in the VIDEO MENU (☞ pg. 46).*
- *When a headphone set is connected to the PHONE connector, the shutter sound is not heard from the speaker, however it is recorded onto the tape.*

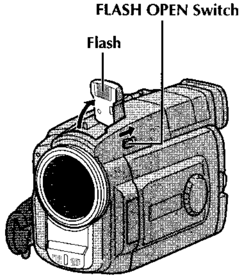
Snapshot Search

Lets you find snapshots during playback of a tape.

1. Play back the tape (☞ pg. 44).

2. Press **INDEX SCREEN**. "SNAPSHOT SEARCH" appears blinking on the screen and the tape fast-forwards and pauses at a snapshot. When pressed again, the tape pauses at the next snapshot. Repeat until the desired snapshots are found.





Basic Shooting (Snapshot)

You can use your camcorder as a Digital Still Camera for taking snapshots. Still images shot with the Shooting Mode Dial set to "VGA" or "XGA" (☞ pg. 15) are recorded in the MultiMediaCard.

NOTE:

You should already have performed the procedures listed below. If not, do so before continuing.

- *Power (☞ pg. 6)*
- *Grip Adjustment (☞ pg. 8)*
- *Viewfinder Adjustment (☞ pg. 8)*
- *Loading A MultiMediaCard (☞ pg. 12)*
- *Picture Quality Mode Setting (☞ pg. 13)*

1 Set the Shooting Mode Dial to "VGA" or "XGA", then set the Power Switch to " A " or " M " while pressing down the Lock Button located on the switch. Open the LCD monitor fully or pull out the viewfinder fully.

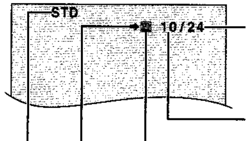
2 Press **SNAPSHOT** halfway. The screen becomes a still image, which is captured into the camcorder's memory. However, it is not recorded until **SNAPSHOT** is pressed fully.
- At this moment, if you release **SNAPSHOT**, snapshot recording will be cancelled.

3 Press **SNAPSHOT** fully.
The image is recorded in the MultiMediaCard.
- Still images are recorded in the snapshot mode with no frame (☞ pg. 21).

To Use The Flash (☞ pg. 34) . . .

.... slide **FLASH OPEN** in the direction of the arrow printed on the camcorder. The flash is raised. If the flash is not needed, push down the flash. When **SNAPSHOT** is pressed halfway, the flash fires.

Display



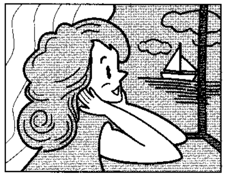
Total number of shots
Displays the approximate total number of shots that can be stored, including those already taken. The number increases or decreases depending on the shots stored, the Picture Quality mode, Shooting mode, etc.

Number of shots taken
Displays the number of images that have already been shot.

Card icon
Appears during shooting and blinks when a MultiMediaCard is not loaded.

Shooting icon
Appears and blinks during shooting.

Picture Quality mode
Displays the Picture Quality mode of the stored image. There are 3 modes available: FINE, STD (Standard) and ECO. (Economy) (in order of quality) (☞ pg. 13).



Snapshot mode with no frame

There is the sound of a shutter closing.

To Delete Unwanted Still Images . . .

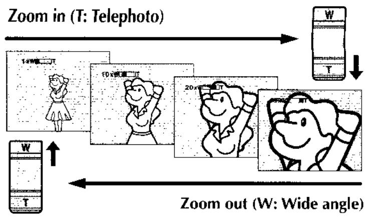
.... when unwanted still images are stored in the MultiMediaCard or its memory is full, refer to "Deleting Images" (☞ pg. 51) and delete unwanted still images.

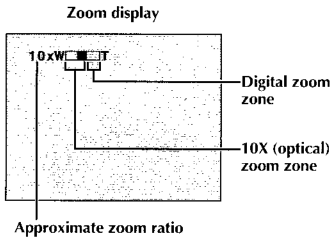
To Remove The Shutter Sound . . .

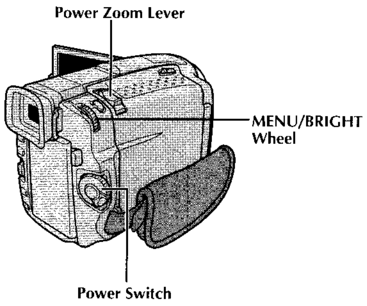
.... when you do not want to hear the shutter sound, set BEEP/TALLY to "OFF" on the Menu Screen (☞ pg. 30, 31). The sound is no longer heard from the speaker.

NOTES:

- *Even if "DIS" is set to "ON" (☞ pg. 32), the Stabiliser will be disabled.*
- *If Snapshot recording is not possible, "PHOTO" blinks when **SNAPSHOT** is pressed.*
- *If Programme AE with special effects (☞ pg. 40) is engaged, certain modes of Programme AE with special effects are disabled during Snapshot recording. In such a case, the icon blinks.*
- *If shooting is not performed for approx. 5 minutes when the Power Switch is set to " A " or " M " and power is supplied from the battery pack, the camcorder shuts off automatically to save power. To perform shooting again, close the LCD monitor and re-open it. When using the viewfinder, push back it in and pull it out again.*
- *The Motor Drive mode (☞ pg. 18) is disabled when the Shooting Mode Dial is set to "VGA" or "XGA".*
- *To reduce the Red-Eye effect in the subject's eyes when the flash fires, ☞ pg. 34.*
- *When a headphone set is connected to the PHONE connector, the shutter sound is not heard from the speaker.*
- *Still images taken are compliant to DCF (Design rules for Camera File systems). They do not have any compatibility with devices which are not compliant to DCF.*
- *In the XGA mode, images shot using a 800,000-pixel Progressive Scan CCD (effective area: 720,000 pixels, 962 x 774 pixels) are converted and stored in the XGA mode file size (1024 x 768 pixels).*


Zoom in (T: Telephoto)
W
T
10xW T
20xW T
Zoom out (W: Wide angle)


Zoom display
10xW T
Digital zoom zone
10X (optical) zoom zone
Approximate zoom ratio


Power Zoom Lever
MENU/BRIGHT Wheel
Power Switch

FEATURE: Zooming

PURPOSE:

To produce the zoom in/out effect, or an instantaneous change in image magnification.

OPERATION:

Zoom In

Slide the Power Zoom Lever towards "T".

Zoom Out

Slide the Power Zoom Lever towards "W".

■ The further you slide the Power Zoom Lever, the quicker the zoom action.

NOTES:

- *Focusing may become unstable during Zooming. In this case, set the zoom while in Record-Standby, lock the focus by using the manual focus (☞ pg. 27), then zoom in or out in Record mode.*
- *Zooming is possible to a maximum of 200X, or it can be switched to 10X magnification using the optical zoom (☞ pg. 31).*
- *Zoom magnification of over 10X is done through Digital image processing, and is therefore called Digital Zoom.*
- *During Digital zoom, the quality of image may suffer.*
- *Digital zoom cannot be used in the following cases:*
  - *When digital image processing, such as Picture Wipe/Dissolve (☞ pg. 38, 39) or Video Echo (☞ pg. 40, 41), is activated.*
  - *When the Shooting Mode Dial is set to "DUAL", "VGA" or "XGA".*
- *Macro shooting (as close as approx. 5 cm to the subject) is possible when the Power Zoom Lever is set all the way to "W". Also see "TELE MACRO" in the Menu Screen on page 32.*

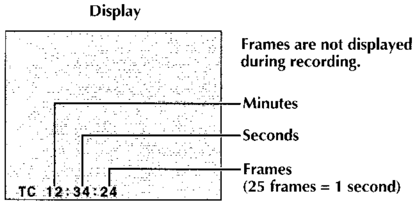
NOTE: Recording From The Middle Of A Tape

Time Code

During recording, a time code is recorded on the tape. This code is to confirm the location of the recorded scene on the tape during playback.
If recording starts from a blank portion, the time code begins counting from "00:00:00" (minute:second:frame). If recording starts from the end of a previously recorded scene, the time code continues from the last time code number.

To perform Random Assemble Editing (☞ pg. 72 – 77), time code is necessary. If during recording a blank portion is left partway through the tape, the time code is interrupted. When recording is resumed, the time code starts counting up again from "00:00:00". This means the camcorder may record the same time codes as those existing in a previously recorded scene. To prevent this, perform "Recording From The Middle of A Tape" below in the following cases;

- When shooting again after playing back a recorded tape.
- When power shuts off during shooting.
- When a tape is removed and re-inserted during shooting.
- When shooting using a partially recorded tape.
- When shooting on a blank portion located partway through the tape.
- When shooting again after shooting a scene then opening/closing the cassette holder cover.


Display
Frames are not displayed during recording.
Minutes
Seconds
Frames
(25 frames = 1 second)
TC 12:34:24

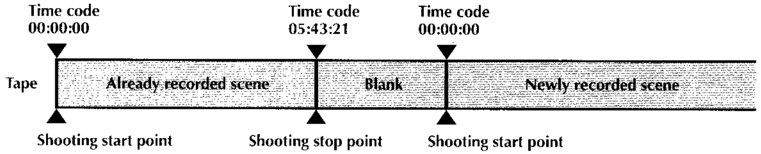
Recording From The Middle Of A Tape

1. Play back a tape to find the spot at which you want to start recording, then engage the Still Playback mode (☞ pg. 44).
2. Set the Power Switch to " A " or " M " while pressing down the Lock Button located on the switch, then start recording.

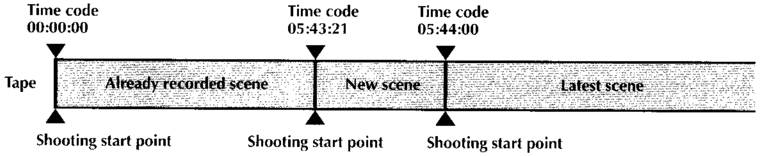
NOTES:

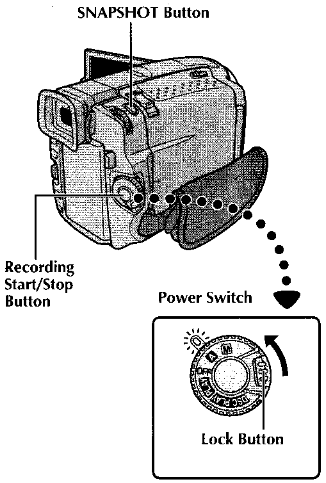
- *The time code cannot be reset.*
- *During fast-forwarding and rewinding, the time code indication does not move smoothly.*
- *The time code is displayed only when "TIME CODE" is set to "ON" (☞ pg. 33, 46).*

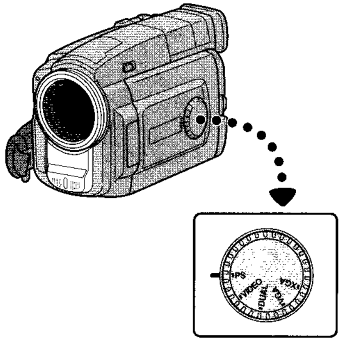
When a blank portion is recorded on a tape


Time code
00:00:00
Time code
05:43:21
Time code
00:00:00
Tape
Already recorded scene
Blank
Newly recorded scene
Shooting start point
Shooting stop point
Shooting start point

Proper recording


Time code
00:00:00
Time code
05:43:21
Time code
05:44:00
Tape
Already recorded scene
New scene
Latest scene
Shooting start point
Shooting start point
Shooting start point





Progressive Mode Recording

This mode lets you record moving images (successive jitter-free still images) onto a tape. Images can then played back jitter-free, with superior quality. High-resolution still images can also be processed on a personal computer or can be printed out (☞ pg. 61).

1. Set the Shooting Mode Dial to "PS", then set the Power Switch to "A" or "M" while pressing down the Lock Button located on the switch. Pull out the viewfinder fully or open the LCD monitor fully.
2. To start Progressive Mode Recording, press the Recording Start/Stop Button.

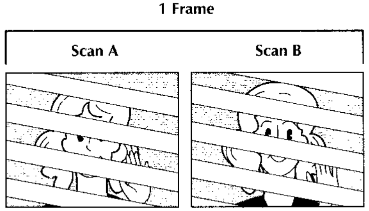
To End Progressive Mode Recording . . .
.... press the Recording Start/Stop Button. The camcorder enters the Record-Standby mode.

NOTES:
- *When an image recorded using the Progressive Mode is played back, the image may not look natural.*
- *When the Shooting Mode Dial is set to "PS", Picture Wipe/Dissolve (☞ pg. 38) and some Programme AE with special effects (☞ pg. 40) cannot be used.*
- *If **SNAPSHOT** is pressed in the PS mode, a snapshot will be recorded with higher quality than in VIDEO mode. However, "MULTI-4" and "MULTI-9" cannot be used (☞ pg. 19).*

Description of Progressive Scan CCD

Progressive Scan is a special image sensing method which, unlike conventional interlace scanning, is able to pick up all the lines of picture information in one Scan. Since the Progressive Scan CCD is capable of outputting 50 full Frames* per second — twice the amount of conventional systems — it is able to deliver a high quality picture even when its output signal is converted to a format that can be viewed on a TV screen.

*A PAL TV screen image is composed of 25 Frames per second. 1 Frame is made up of 2 Fields.



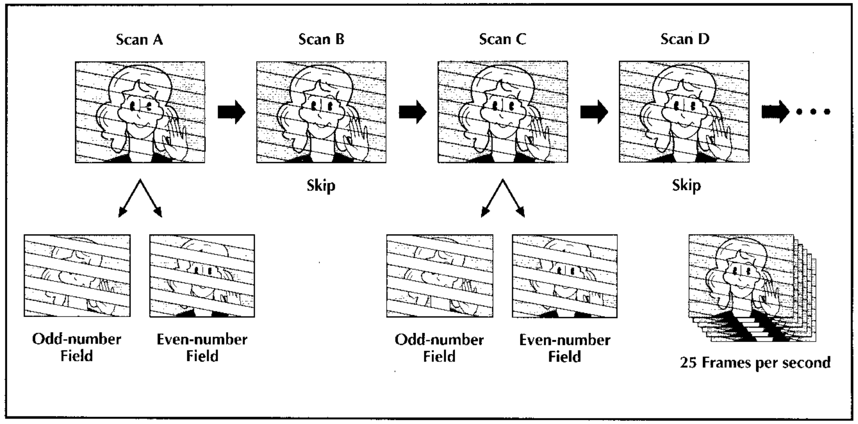
1. Regular shooting of moving images

Records 25 odd and 25 even image Fields, for a total of 50 per second. Since there is a time lag between an odd and even Field, when they are combined to make 1 Frame the part of the image that is moving appears as image jitter. **However, during normal playback, the moving picture looks smooth and natural.**

2. Progressive mode shooting of moving images (Progressive Mode Recording ☞ pg. 24)

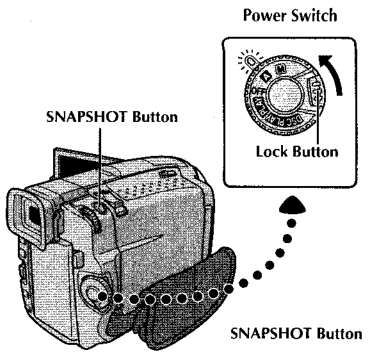
Scan A is recorded, divided into an odd- and even-number Field, and then Scan B is skipped. Scans C and D are handled in the same way as Scans A and B, as illustrated below, thereby recording 25 Frames per second.

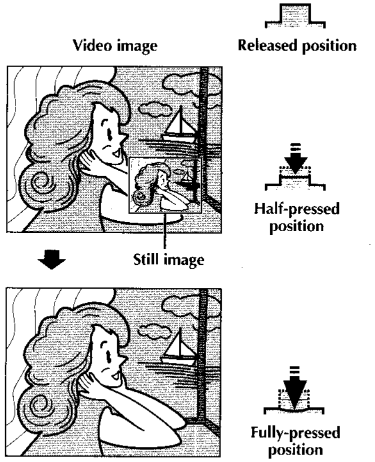
Since each recorded odd- and even-number Field originates from the same Scan there is no time lag between them, and so when they are combined into a Frame and **a still image is displayed on a TV or PC monitor the picture does not look jittery. However, when moving images are played back, the picture can look unnatural.**

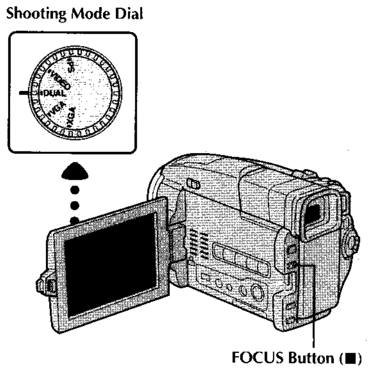


Dual Shooting

Lets you record images on a tape and store still images in a MultiMediaCard simultaneously. In other words, it is possible to store still images in the MultiMediaCard without interrupting image recording on the tape.



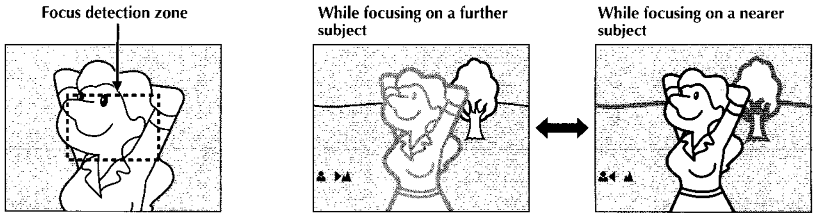




1. Set the Shooting Mode Dial to "DUAL", then set the Power Switch to "Ⓐ" or "Ⓜ" while pressing down the Lock Button located on the switch. Pull out the viewfinder fully or open the LCD monitor fully.
2. While recording to a tape, press **SNAPSHOT** halfway. A still image is displayed in the lower right corner of the screen where the video image being recorded is displayed.
   - At this moment, if you release **SNAPSHOT**, snapshot recording will be cancelled.
3. Press **SNAPSHOT** fully. The displayed still image is stored in the MultiMediaCard.

NOTES:

- *If **SNAPSHOT** is pressed in the Record-Standby mode, only a still image is stored in the MultiMediaCard. Video recording does not take place.*
- *If **SNAPSHOT** is pressed when "DIS" is set to "ON" (☞ pg. 32), the Stabiliser will be disabled.*
- *The Stabiliser is less effective in the DUAL mode than in other modes.*
- *The flash is disabled during video recording.*
- *Still images are stored in the MultiMediaCard in VGA mode file size (☞ pg. 15).*
- *When the Shooting Mode Dial is set to "DUAL", all Fade/Wipe Effects and some Programme AE with special effects cannot be used (☞ pg. 38 – 41).*


Focus detection zone
While focusing on a further subject
While focusing on a nearer subject

FEATURE: Auto Focus

PURPOSE:

The camcorder's Full Range AF system offers continuous shooting ability from close-up (as close as approx. 5 cm to the subject) to infinity.

However, correct focus may not be obtainable in the situations listed below (in these cases use manual focusing):

- When two subjects overlap in the same scene.
- When illumination is low.*
- When the subject has no contrast (difference in brightness and darkness), such as a flat, one-colour wall, or a clear, blue sky.*
- When a dark object is barely visible in the viewfinder.*
- When the scene contains minute patterns or identical patterns that are regularly repeated.
- When the scene is affected by sunbeams or light reflecting off the surface of a body of water.
- When shooting a scene with a high-contrast background.

* The following low-contrast warnings appear blinking: ▲, ◀, ▶ and ♟

NOTES:

- *If the lens is smeared or blurred, accurate focusing is not possible. Keep the lens clean, wiping with a piece of soft cloth if it gets dirty. When condensation occurs, wipe with a soft cloth or wait for it to dry naturally.*
- *When shooting a subject close to the lens, zoom out first (☞ pg. 22). If zoomed-in in the auto focus mode, the camcorder may automatically zoom out depending on the distance between the camcorder and the subject. This will not occur when "TELE MACRO" (☞ pg. 32) is activated.*

FEATURE: Manual Focus

PURPOSE:

To obtain correct focus.

OPERATION:

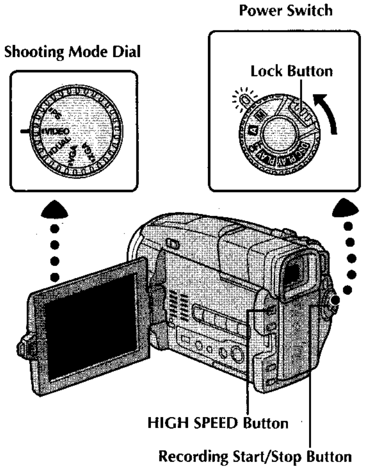
1) If you are using the viewfinder, you should already have made the necessary viewfinder adjustments (☞ pg. 8).
2) Set the Power Switch to "Ⓜ", then press **FOCUS** (■). The manual focus indicator appears.
3) To focus on a farther subject, rotate **MENU/BRIGHT** towards "+". "▶" appears and blinks.
To focus on a nearer subject, rotate **MENU/BRIGHT** towards "–". "◀" appears and blinks.
4) Press **MENU/BRIGHT**. Focus adjustment is complete.

To reset to Auto Focus, press **FOCUS** (■) twice or set the Power Switch to "Ⓐ".

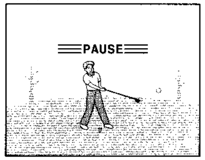
If **FOCUS** (■) is pressed once, the camcorder will enter the focus adjustment mode again.

NOTES:

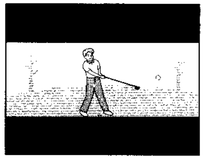
- *Be sure to focus the lens in the maximum telephoto position when you use the Manual Focus mode. If you focus in on a subject in the wide-angle position, sharply focused images cannot be obtained when zoomed up because the depth-of-field is reduced at longer focal lengths.*
- *When the focus level cannot be adjusted any further or closer, "▲" or "♟" will blink.*



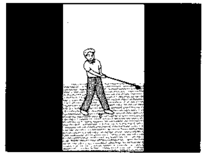
Screen during High Speed Recording or playback of images recorded in High Speed Recording mode



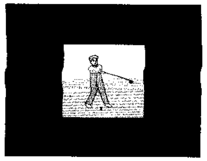
Normal Record-Standby



2X horizontal high-density: Suitable for recording horizontally-moving scenes such as running.



2X vertical high-density: Suitable for recording vertically-moving scenes such as golf.



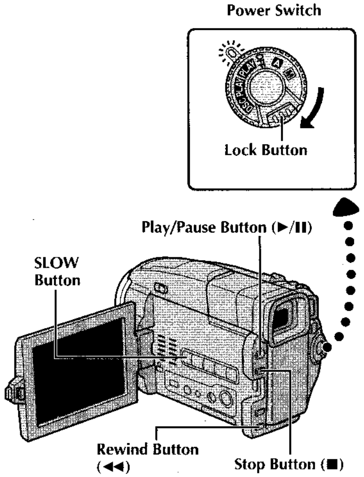
4X high-density: Suitable for recording much faster-moving scenes.

High Speed Recording

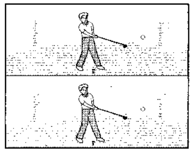
The images recorded in High Speed Recording mode can be played back with high density in slow-motion. This feature is an effective way to capture fast-moving action. Also refer to "Progressive Slow-Motion Playback" on pg. 29.

1. Set the Shooting Mode Dial to "VIDEO", then set the Power Switch to " M " while pressing down the Lock Button. Pull out the viewfinder fully or open the LCD monitor fully.
2. To engage High Speed Recording Standby, press **HIGH SPEED** while in the Record-Standby mode.
   - There are 3 High Speed Recording modes available as illustrated on the left. Each time **HIGH SPEED** (**▶/❚❚**) is pressed, the screen is switched.
3. To start High Speed Recording, press the Recording Start/Stop Button.
4. To end High Speed Recording, press the Recording Start/Stop Button.
   - To release the High Speed Recording mode, press **HIGH SPEED** until the normal screen reappears.

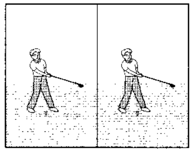
NOTES:
- *The screen may jitter.*
- *It is possible to copy scenes recorded in High Speed Recording mode from this camcorder only to another GR-DVL9800.*
- *During High Speed Recording, the following functions are disabled: Fade/Wipe effects (☞ pg. 38, 39), Programme AE with special effects (other than "TWILIGHT" and "SHUTTER", ☞ pg. 40, 41), "DIS" (☞ pg. 32), Snapshot (☞ pg. 18) and over 10X zoom magnification (☞ pg. 31).*
- *If zooming is attempted during High Speed Recording, the image may become slightly blurred.*



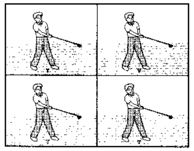
Playback image on a video unit other than the GR-DVL9800/DVL 9700 or when the camcorder is connected to a monitor via DV OUT.



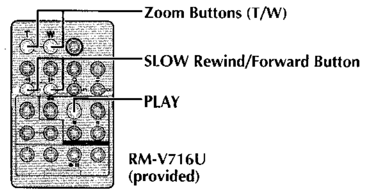
2X horizontal high-density



2X vertical high-density



4X high-density



PROGRESSIVE SLOW-MOTION PLAYBACK

Images recorded in High Speed Recording mode will offer less blur than normal images when played back in slow-motion. You can watch fast-moving action in slow-motion with superior quality.

1. Set the Power Switch to " PLAY " while pressing down the Lock Button located on the switch.
2. To find a section recorded in the High Speed Recording mode, press **▶/❚❚**, then **◀◀**.
   When the desired section is found, press **▶/❚❚**.
   - To see how images recorded in the High Speed recording mode are played back on this camcorder, ☞ pg. 28.
3. To start Progressive Slow-Motion, press **SLOW** on the camcorder for more than approx. 2 seconds.

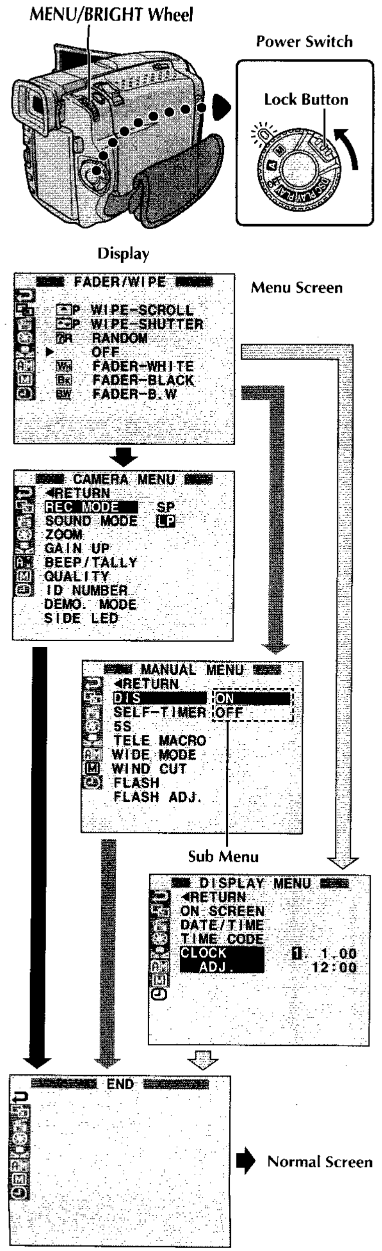
To Search In Rewind Or Forward . . .

.... press **SLOW** (◀I) on the remote control for more than approx. 2 seconds to view reverse Slow-Motion. Press **SLOW** (I▶) on the remote control for more than approx. 2 seconds to return to forward Slow-Motion.

- To resume normal playback, press **▶/❚❚**.
- To start frame-by-frame playback, press **SLOW** and release it quickly.
- To zoom in during Progressive Slow-Motion, press **T/W** on the remote control at the desired scene.
- After approx. 1 minute in Slow Rewind or approx. 2 minutes in Slow Forward, normal playback resumes.

4. To end Progressive Slow-Motion, press **■**.

NOTES:
- *To protect the video heads, Progressive Slow-Motion Playback is performed only up to 2 minutes in Slow Forward and only up to 1 minute in Slow Rewind.*
- *If a tape recorded in High Speed Recording mode is dubbed between 2 video units (except when the player is GR-DVL9800 or GR-DVL9700 and the recorder is GR-DVL9800), Progressive Slow-Motion Playback of the dubbed tape is not possible.*
- *When editing with JLIP Video Producer (provided software), Playback Special Effects and Fade/Wipe effects do not function properly in images recorded in High Speed Recording mode.*
- *During Progressive Slow-Motion Playback, the following functions are disabled: "STROBE" and "VIDEO ECHO" of Playback Special Effects (☞ pg. 71).*
- *If the tape reaches a portion which was not recorded in High Speed Recording mode during Progressive Slow-Motion Playback, Progressive Slow-Motion changes to normal Slow-Motion.*
- *If images recorded in High Speed Recording mode are output via the PRINTER connector, the images will be printed as shown in the illustration on the left.*


MENU/BRIGHT Wheel
Power Switch
Lock Button
Display
Menu Screen
FADER/WIPE
WIPE-SCROLL
WIPE-SHUTTER
RANDOM
OFF
FADER-WHITE
FADER-BLACK
FADER-B.W
CAMERA MENU
◀RETURN
REC MODE SP
SOUND MODE LP
ZOOM
GAIN UP
BEEP/TALLY
QUALITY
ID NUMBER
DEMO. MODE
SIDE LED
MANUAL MENU
◀RETURN
DIS ON
SELF-TIMER OFF
5S
TELE MACRO
WIDE MODE
WIND CUT
FLASH
FLASH ADJ.
Sub Menu
DISPLAY MENU
◀RETURN
ON SCREEN
DATE/TIME
TIME CODE
CLOCK ADJ. 1. 1.00 12:00
END
Normal Screen

Using Menus For Detailed Adjustment

This camcorder is equipped with an easy-to-use, on-screen menu system that simplifies many of the more detailed camcorder settings (☞ pg. 31 – 33).

1 Set the Power Switch to "M" while pressing down the Lock Button located on the switch, then pull out the viewfinder fully or open the LCD monitor fully.

2 Press **MENU/BRIGHT**. The Menu Screen appears.

3 Rotate **MENU/BRIGHT** to select the desired function icon, and press it. The selected function menu appears.

4 Function menu setting depends on the function.

If you have selected "▣", "▣", "▣" or "▣"...
.... see pg. 31.

If you have selected "▣", "▣" or "▣"...
.... go to step **5**.

5 Rotate **MENU/BRIGHT** to select the desired function and press it. The Sub Menu appears.
Then, rotate **MENU/BRIGHT** to select the parameter, and press it. Selection is complete.

6 Rotate **MENU/BRIGHT** to select "◀RETURN" and press it twice. The Menu Screen closes.
- The ▣ icon represents "END".

Menu Screen Explanations

	FADER/WIPE		Refer to "Fade/Wipe Effects" (☞ pg. 38, 39).
	P.AE/EFFECT		Refer to "Programme AE With Special Effects" (☞ pg. 40, 41).
	EXPOSURE		Refer to "Exposure Control" and "Iris Lock" (☞ pg. 42).
	W.BALANCE		Refer to "White Balance Adjustment" and "Manual White Balance Operation" (☞ pg. 43).
CAMERA MENU	**REC MODE**		Allows you to set the recording mode (SP or LP) depending on your preference (☞ pg. 11).
	SOUND MODE	**12 BIT**	Enables video recording of stereo sound on four separate channels, and is recommended for use when performing audio dubbing. (Equivalent to the 32 kHz mode of previous models)
		16 BIT	Enables video recording of stereo sound on two separate channels. (Equivalent to the 48 kHz mode of previous models)
	ZOOM	**10X**	When set to "10X" while using digital zoom, the zoom magnification will reset to 10X since digital zoom will be disengaged.
		40X	Allows you to use the Digital Zoom. By digitally processing and magnifying images, zooming is possible from 10X (the optical zoom limit), to a maximum of 40X digital magnification.
		200X	Allows you to use the Digital Zoom. By digitally processing and magnifying images, zooming is possible from 10X (the optical zoom limit), to a maximum of 200X digital magnification.
	GAIN UP	**OFF**	Allows you to shoot dark scenes with no picture brightness adjustment.
		AGC	The overall appearance may be grainy, but the image is bright.
		AUTO A✳	The shutter speed is automatically adjusted (1/25 — 1/200 sec.). Shooting a subject in low or poor lighting at 1/25 sec. shutter speed provides a brighter image than in the AGC mode, but the subject's movements are not smooth or natural. The overall appearance may be grainy. When set to this mode, "A✳" is displayed.
	BEEP/ TALLY	**ON: MELODY**	The tally lamp comes on to signal the start of recording. Instead of a beep, a melody sounds when any operation is performed. It also activates the shutter sound effect (☞ pg. 18, 20).
		ON:BEEP	The tally lamp comes on to signal the start of recording. The beep sounds when the power is turned on or off, and at the beginning and end of recording. Also to activate the shutter sound effect (☞ pg. 18, 20).
		OFF	The tally lamp remains off at all times. Even though not heard while shooting, shutter sound is recorded on the tape.
	QUALITY		Allows you to set the Picture Quality mode (FINE, STANDARD or ECONOMY) depending on your preference (☞ pg. 13).
	ID NUMBER		This number is necessary when connecting the camcorder to a device such as a computer using the J terminal (JLIP). The numbers range from 01 to 99. Factory setting is 06.

NOTE:
The "▣ CAMERA MENU" settings are effective when the Power Switch is set to both "A" and "M".

▨ : **Factory-preset**

CONTINUED ON NEXT PAGE

Menu Screen Explanations (cont.)

CAMERA MENU	**DEMO. MODE**	▨ **ON**	Demonstrates certain functions such as Programme AE with special effects, etc., and can be used to confirm how these functions operate. When “DEMO. MODE” is set to “ON” and the Menu Screen is closed, demonstration starts. Performing any operation during the demonstration stops the demonstration temporarily. If no operation is performed for more than 1 minute after that, the demonstration will resume. **NOTES:** ● If a tape is in the camcorder, the demonstration cannot be turned on. ● “DEMO. MODE” remains “ON” even if the camcorder power is turned off. ● If “DEMO. MODE” remains “ON”, some functions will not be available. After viewing demo, set to “OFF”.
		OFF	Automatic demonstration will not take place.
	SIDE LED	▨ **ON**	“PROGRESSIVE SCAN” lights on the camcorder when using the AC Power Adapter/ Charger as a power supply unit, and lights for approx. 5 seconds when using the battery pack. The indicator colour depends on the Shooting Mode Dial position. VIDEO or PS: Red, DUAL: Purple, VGA or XGA: Blue The Power Switch should be set to “A” or “M”.
		OFF	
MANUAL MENU	**DIS**	▨ **ON**	To compensate for unstable images caused by camera-shake, particularly at high magnification. **NOTES:** ● Accurate stabilisation may not be possible if hand shake is excessive, or under the following conditions: • When shooting subjects with vertical or horizontal stripes. • When shooting dark or dim subjects. • When shooting subjects with excessive backlighting. • When shooting scenes with movement in various directions. • When shooting scenes with low-contrast backgrounds. ● Switch off this mode when recording with the camcorder on a tripod. ● The “ ” indicator blinks or goes out if the Stabiliser cannot be used.
		OFF	
	SELF-TIMER	Refer to “Self-Timer” (☞ pg. 36).	
	5S	▨ **OFF**	Refer to “5-Second Recording” (☞ pg. 37).
		5S	
		ANIM.	Allows you to record a few frames only. By using an inanimate object and changing its position between shots, you can record the subject as though it is moving (☞ pg. 37).
	TELE MACRO	▨ **OFF**	Usually the distance to a subject where the lens is in focus depends on the zoom magnification. Unless there is a distance more than 1m to the subject, the lens is out of focus at the maximum telephoto setting. When set to “ON”, you can shoot a subject as large as possible at a distance of approx. 60 cm. • Depending on the zoom position, the lens may go out of focus.
		ON	
	WIDE MODE	▨ **OFF**	Records with no change in the screen ratio. For playback on a TV with a normal screen ratio.
		CINEMA	Inserts black bands at the top and bottom of the screen. During playback on wide-screen TVs, the black bands at the top and bottom of the screen are cut and the screen ratio becomes 16:9. When using this mode, refer to your wide-screen TV’s instruction manual. During playback/recording on 4:3 TVs/LCD monitor/viewfinder, black bands are inserted at the top and bottom of the screen and the image appears like a letterboxed 16:9 movie. • The “CINEMA” mode is effective only when the Shooting Mode Dial is set to “VIDEO” or “PS”.
		SQUEEZE	For playback on TVs with an aspect ratio of 16:9. Naturally expands the image to fit the screen without distortion. W appears. When using this mode, refer to your wide-screen TV’s instruction manual. During playback/recording on 4:3 TVs/LCD monitor/viewfinder, the image is elongated vertically. • The “SQUEEZE” mode is effective only when the Shooting Mode Dial is set to “VIDEO” or “PS”.
		PS WIDE	“S-W” appears. The zoom range is extended beyond the maximum optical zoom wide angle range. This mode’s wide angle setting is equivalent to using a 0.7X wide conversion lens. Zooming is possible from 0.7X to 10X. This mode is suitable for shooting in a small room. • The “PS WIDE” mode is effective only when the Shooting Mode Dial is set to “PS”.

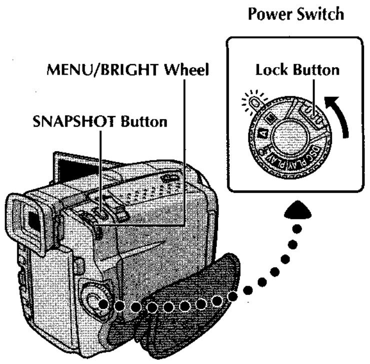
▨ **: Factory-preset**

MANUAL MENU	**WIND CUT**	▨ **OFF**	Disengages the function which cuts down on noise created by wind.
		ON	Helps cut down on noise created by wind. “ ” appears. The quality of the sound will change. This is normal.
	FLASH	Refer to “Snapshot Flash” (☞ pg. 34).	
	FLASH ADJ.	Refer to “Flash Brightness Adjustment” (☞ pg. 35).	
DISPLAY MENU	**ON SCREEN**	▨ **LCD**	Keeps the camcorder’s display (except the date, time and time code) from appearing on the connected TV screen.
		LCD/TV	Makes the camcorder’s display appear on screen when the camcorder is connected to a TV.
		SIMPLE	Keeps the indications (except the tape running indicator, warnings, date, time, time code, etc.) from appearing in the camcorder. Also keeps the camcorder’s display (except the date, time and time code) from appearing on the connected TV screen.
	DATE/ TIME	▨ **AUTO**	Displays the date/time for approx. 5 seconds in the following cases: • When the Power Switch is set from “OFF” to “A” or “M”. • When playback starts. The camcorder displays the date/time when scenes are recorded. • When the date is changed during playback.
		OFF	The date/time does not appear.
		ON	The date/time is always displayed.
	TIME CODE	**ON**	Time code is displayed on the camcorder and on the connected TV. Frame numbers are not displayed during recording.
		▨ **OFF**	Time code is not displayed.
	CLOCK ADJ.	Allows you to set the current date and time (☞ pg. 9).	

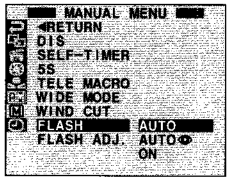
▨ **: Factory-preset**

NOTES:

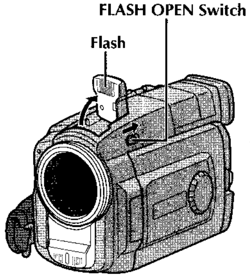
- ● *The “MANUAL MENU” settings are effective only when the Power Switch is set to “M”.*
- ● *“DISPLAY MENU” functions which are set when the Power Switch is set to “M” are also applied when the Power Switch is set to “PLAY” (☞ pg. 46). “CLOCK ADJ.” only appears when the Power Switch is set to “M”.*
- ● *The “DISPLAY MENU” settings are effective even when the Power Switch is set to “A”.*
- ● *The “ON SCREEN” setting can also be changed by pressing the **DISPLAY** Button on the RM-V716U remote control (provided) (☞ pg. 59, 62, 73).*



Display


MANUAL MENU
◀RETURN
DIS
SELF-TIMER
5S
TELE MACRO
WIDE MODE
WIND CUT
FLASH AUTO
FLASH ADJ. AUTO◉
ON

Menu Screen



Snapshot Flash

The flash can be used when a snapshot is taken in Record-Standby (☞ pg. 18, 20).

- In Full Auto mode, the flash automatically fires if it is dark (ϟ appears).
- In Manual mode, you can select the "FLASH" setting as follows:

AUTO	: Fires automatically if it is dark (ϟ appears).
AUTO ◉	: Fires automatically if it is dark (ϟ appears) and reduces the Red-Eye effect in the subject's eyes.
ON	: Always fires.

Perform the procedure below.

1. Set the Power Switch to "Ⓜ" while pressing down the Lock Button located on the switch, then pull out the viewfinder fully or open the LCD monitor fully.
2. Press **MENU/BRIGHT**. The Menu Screen appears.
3. Rotate **MENU/BRIGHT** to select "Ⓜ", and press it. "MANUAL MENU" appears.
4. Rotate **MENU/BRIGHT** to select "FLASH", and press it. The Sub Menu appears.
5. Rotate **MENU/BRIGHT** to select "AUTO", "AUTO ◉" or "ON", and press it. Rotate **MENU/BRIGHT** to select "◀RETURN". Press it twice to close the Menu Screen.

If "AUTO ◉" Is Selected . . .

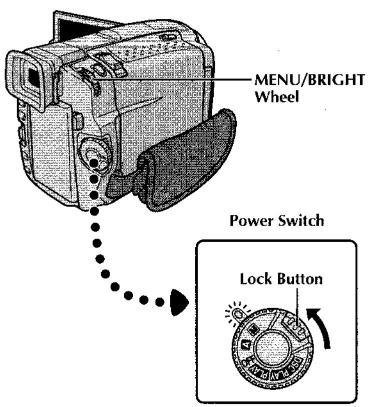
.... the ◉ Red-Eye reduction indicator lights. Press **SNAPSHOT**. The flash fires twice. The first flash is for reduction of the human eye's red reflection and the second flash is for the actual recording.

To Use The Flash . . .

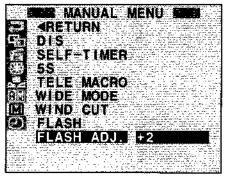
.... slide **FLASH OPEN** in the direction of the arrow printed on the camcorder. The flash is raised. If the flash is not needed, push down the flash.

NOTES:

- *Do not fire the flash at a person at short range.*
- *In Multi-Analyser 4 or Multi-Analyser 9, the flash is disabled (☞ pg. 19).*
- *The flash does not fire when the battery remaining power is low. Moreover, the flash does not fire when it is set to "AUTO" in the Menu Screen with GAIN UP set to "OFF" (☞ pg. 31) and with Programme AE with special effects set to "TWILIGHT" (☞ pg. 41).*
- *When taking several snapshots in succession (Motor Drive Mode), the flash fires only during the first one.*
- *Although images shot with a flash tend to look whiter than they actually are, to compensate for this the camcorder automatically darkens the picture when using the flash. When shooting a subject at a distance where the flash light cannot reach (over approx. 2 m), push down the flash to prevent the picture from becoming too dark.*
- *When using a conversion lens, keep the flash pushed down as the flash sensor will be blocked by the lens.*
- *The colour tone changes depending on the background lighting conditions, such as under fluorescent or halogen lamps.*
- *To change the brightness of the flash, ☞ "Flash Brightness Adjustment" (☞ pg. 35).*
- *While charging the flash, ϟ blinks and the flash will not fire. Although noise may appear, this is not a malfunction and is not recorded. It can take up to 10 seconds to charge the flash.*



Display


MANUAL MENU
◀RETURN
DIS
SELF-TIMER
5S
TELE MACRO
WIDE MODE
WIND CUT
FLASH
FLASH ADJ. +2

Menu Screen

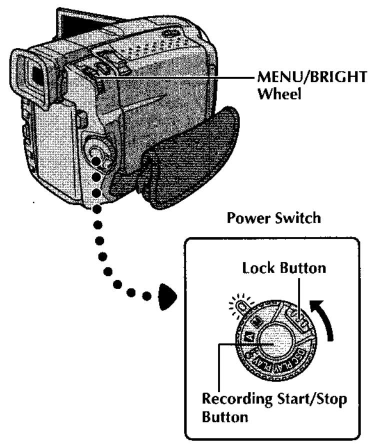
Flash Brightness Adjustment

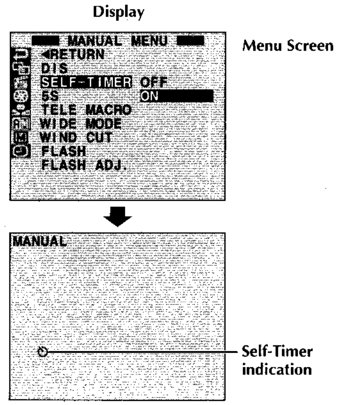
When a snapshot (☞ pg. 18, 20) is taken in the dark the camcorder fires the flash (☞ pg. 34) and adjusts the brightness automatically. You can also adjust the flash brightness manually. When you find that the snapshots you took look too bright or too dark, adjust it manually.

1. Set the Power Switch to "Ⓜ" while pressing down the Lock Button located on the switch, then pull out the viewfinder fully or open the LCD monitor fully.
2. Press **MENU/BRIGHT**. The Menu Screen appears.
3. Rotate **MENU/BRIGHT** to select "Ⓜ", and press it. "MANUAL MENU" appears.
4. Rotate **MENU/BRIGHT** to select "FLASH ADJ.", and press it. The parameter appears.
5. To intensify the flash, rotate **MENU/BRIGHT** towards "+". To weaken the flash, rotate it towards "–". Adjustment range: –3 to +3.
6. Press **MENU/BRIGHT**. Rotate it to select "◀RETURN" and press it twice to close the Menu Screen.

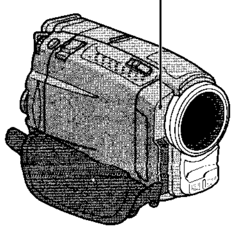
NOTE:

When you change the subject you are shooting or the shooting location, set it back to ±0 as described in step 5 and take a snapshot to check the flash brightness. After doing this adjust to your desired brightness.


MENU/BRIGHT Wheel
Power Switch
Lock Button
Recording Start/Stop Button


Display
MANUAL MENU
◀RETURN
DIS
SELF-TIMER OFF
5S ON
TELE MACRO
WIDE MODE
WIND CUT
FLASH
FLASH ADJ.
Menu Screen
MANUAL
Self-Timer indication

When the Recording Start/Stop Button or SNAPSHOT is pressed, the tally lamp changes as shown:



Self-Timer

Once the camcorder is set, the camcorder operator can become part of the scene in a more natural way, adding the final touch to a memorable picture.

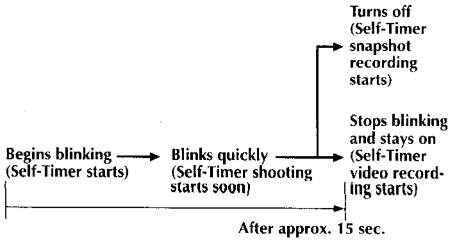
1. Set the Power Switch to "Ⓜ" while pressing down the Lock Button located on the switch. Pull out the viewfinder fully or open the LCD monitor fully.
   - You can tilt the LCD monitor upward to 180° so that it faces forward and view yourself while self-recording with the viewfinder pushed back.
2. Press **MENU/BRIGHT**. The Menu Screen appears.
3. Rotate **MENU/BRIGHT** to select "▣", and press it.
4. Rotate **MENU/BRIGHT** to select "SELF-TIMER", and press it. The Sub Menu appears. Rotate **MENU/BRIGHT** to select "ON", and press it. Selection is complete. Rotate **MENU/BRIGHT** to select "◀RETURN", and press it twice to close the Menu Screen.
5. To engage the Self-Timer for video recording, press the Recording Start/Stop Button. After 15 seconds, the beep sounds and video recording starts. To stop Self-Timer recording, press the Recording Start/Stop Button again. The camcorder re-enters Record-Standby mode.

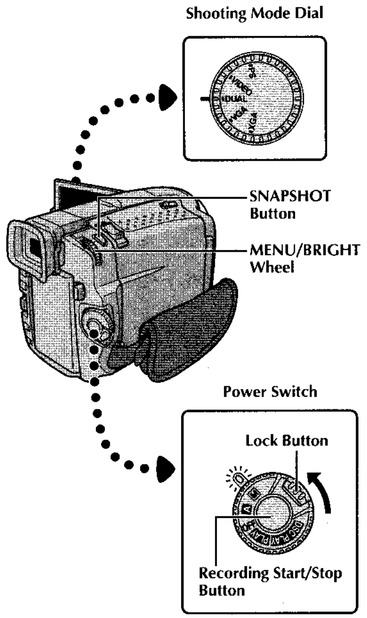
   OR

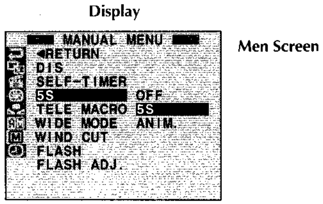
   Press **SNAPSHOT**. After 15 seconds, the beep sounds and snapshot recording starts. After that, the camcorder re-enters Record-Standby mode.
6. To end Self-Timer recording, select "OFF" in step **4** or set the Power Switch to "OFF" or "Ⓐ".

NOTE:

If "BEEP/TALLY" is set to "OFF" (☞ pg. 31), the beep does not sound and the tally lamp does not light.


Begins blinking (Self-Timer starts)
Blinks quickly (Self-Timer shooting starts soon)
Turns off (Self-Timer snapshot recording starts)
Stops blinking and stays on (Self-Timer video recording starts)
After approx. 15 sec.


Shooting Mode Dial
SNAPSHOT Button
MENU/BRIGHT Wheel
Power Switch
Lock Button
Recording Start/Stop Button


Display
MANUAL MENU
◀RETURN
DIS
SELF-TIMER
5S OFF
TELE MACRO 5S
WIDE MODE ANIM.
WIND CUT
FLASH
FLASH ADJ.
Men Screen

5-Second Recording

Record a vacation or an important event in 5-second clips to keep the action moving. This function is available only for video recording.

1. Set the Shooting Mode Dial to "VIDEO", "PS" or "DUAL", then set the Power Switch to "Ⓜ" while pressing down the Lock Button located on the switch. Pull out the viewfinder fully or open the LCD monitor fully.
2. Press **MENU/BRIGHT**. The Menu Screen appears.
3. Rotate **MENU/BRIGHT** to select "▣", and press it. "MANUAL MENU" appears.
4. Rotate **MENU/BRIGHT** to select "5S", and press it. The Sub Menu appears.
5. Rotate **MENU/BRIGHT** to select "5S", and press it.
   - "5S MODE" appears.
6. Press the Recording Start/Stop Button. The tally lamp lights and beep sounds to indicate the start of recording, and after 5 seconds the camcorder enters Record-Standby mode.
   - Even if you press the Recording Start/Stop Button again within 5 seconds after recording starts, Record-Standby mode is not engaged.
7. To exit the 5S mode, select "OFF" in step **5** or set the Power Switch to "Ⓐ" or "OFF".

To Take A Snapshot In The 5-Second Recording Mode . . .

.... instead of pressing the Recording Start/Stop Button in step **6**, press **SNAP MODE** repeatedly until the desired snapshot indicator is displayed, then press **SNAPSHOT**. The camcorder records a 5-second still (☞ pg. 18). When "5S" is set to "ANIM." (☞ pg. 32) this function is not available.

NOTE:

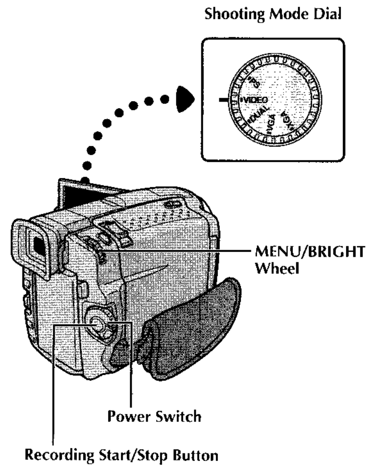
When "5S" is set to "ANIM." in the Menu Screen the 5-second recording mode is not available. Animation recording of a few frames only is taken instead (☞ pg. 32).

Fade/Wipe Effects

These effects let you make pro-style scene transitions. Use them to spice up the transition from one scene to the next. You can also vary transitions from scene to scene.

IMPORTANT:

Some Fade/Wipe Effects cannot be used with certain modes of Programme AE with special effects (☞ pg. 40, 41). If an unusable Fade/Wipe Effect is selected, its indicator blinks or goes out.



To Deactivate The Selected Effect . . .

.... select "OFF" in step **4**.

NOTES:

- *You can extend the length of a Fade or Wipe by pressing and holding the Recording Start/Stop Button.*
- *If the power is turned off after a scene is finished recording, the stored point is erased, disabling the Picture Wipe/Dissolve combination. When this happens, the Picture Wipe/Dissolve indicator blinks. Also note that power shuts off automatically if 5 minutes elapse in the Record-Standby mode.*
- *Picture Wipe/Dissolve cannot be used when the Shooting Mode Dial is set to "PS".*
- *All Fade/Wipe Effects cannot be used when the Shooting Mode Dial is set to "DUAL".*
- *The sound at the end of the last recorded scene is not stored.*

FADE/WIPE SELECTION (WH, BK, BW, ◣, □, ◀, ◀▶, ▲, ▲▼ and ?R)

Fade or Wipe works when recording is started or when you stop recording.

1 Set the Shooting Mode Dial to "VIDEO" or "PS" then set the Power Switch to "M" while pressing down the Lock Button located on the switch. Pull out the viewfinder fully or open the LCD monitor fully.

2 Press **MENU/BRIGHT**. The Menu Screen appears.

3 Rotate **MENU/BRIGHT** to select "▣", then press it.

4 Rotate **MENU/BRIGHT** to select the desired function, then press it. Selection is complete.
- The FADER/WIPE Menu disappears and the effect is reserved. The indicator representing the selected effect appears.

5 Press the Recording Start/Stop Button to activate the Fade-in/out or Wipe-in/out.

PICTURE WIPE OR DISSOLVE SELECTION (⧉P, ◣P, □P, ◀P, ◀▶P, ▲P and ▲▼P)

The Picture Wipe or Dissolve works when recording is started.

1 Follow steps **1** through **4** above.

2 ***If you select Picture Wipe/Dissolve during recording . . .***

.... press the Recording Start/Stop Button when one scene is finished. The point at which the scene ended is stored in memory.

If you select Picture Wipe/Dissolve during Record-Standby mode . . .

.... press the Recording Start/Stop Button to start recording and press it again when one scene is finished. The point at which the scene ended is stored in memory.

If you select Picture Wipe/Dissolve during Record-Standby mode after performing a Picture Wipe/Dissolve . . .

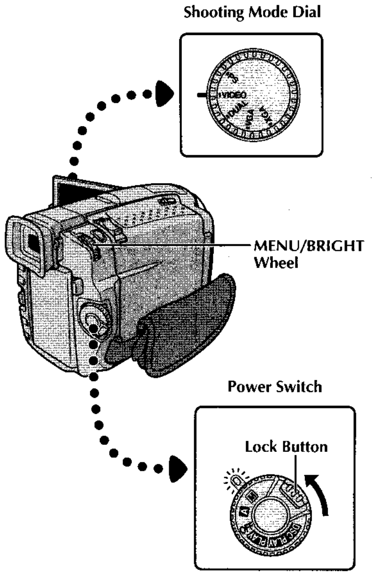
.... the point at which the scene ended is already stored in memory.

3 If you start recording a new scene within 5 minutes of the end of the previous recording (without having turned the camcorder's power off), the previous scene wipes out, revealing the new scene.

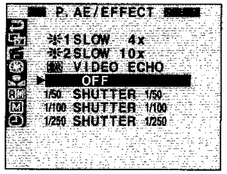
Fader And Wipe Menu

Menu	Effect
WH FADER — WHITE	Fade in or out with a white screen.
BK FADER — BLACK	Fade in or out with a black screen.
B.W FADER — B.W	Fade in to a colour screen from a black and white screen, or fade out from colour to black and white.
◣ WIPE — CORNER	Wipe in on a black screen from the upper right to the lower left corner, or wipe out from lower left to upper right, leaving a black screen.
□ WIPE — WINDOW	The scene starts in the centre of a black screen and wipes in toward the corners, or comes in from the corners, gradually wiping out to the centre.
◀ WIPE — SLIDE	Wipe in from right to left, or wipe out from left to right.
◀▶ WIPE — DOOR	Wipe in as the two halves of a black screen open to the left and right, revealing the scene, or wipe out and the black screen reappears from left and right to cover the scene.
▲ WIPE — SCROLL	The scene wipes in from the bottom to the top of a black screen, or wipes out from top to bottom, leaving a black screen.
▲▼ WIPE — SHUTTER	Wipe in from the centre of a black screen toward the top and bottom, or wipe out from the top and bottom toward the centre leaving a black screen.
⧉P DISSOLVE	The new scene gradually appears as the old one gradually disappears.
◣P WIPE — CORNER	The new scene wipes in over the previous one from the upper right corner to the lower left corner.
□P WIPE — WINDOW	The next scene gradually wipes in from the centre of the screen toward the corners, covering the previous scene.
◀P WIPE — SLIDE	The next scene gradually wipes in over the previous one from right to left.
◀▶P WIPE — DOOR	The previous scene wipes out from the centre to the right and left, like a door being pushed open to reveal the next scene.
▲P WIPE — SCROLL	The new scene wipes in over the last one from the bottom of the screen to the top.
▲▼P WIPE — SHUTTER	The new scene wipes in over the previous one from the centre toward the top and bottom of the screen.
?R RANDOM	When this function is activated, the camcorder randomly selects the effect used in scene transition (from BW, WH, BK, □, ▲, ▲▼, ◀, ◀▶, and ◣). The Picture Wipe/Dissolve function is not available.

IMPORTANT:
Some modes of Programme AE with special effects cannot be used with certain Fade/Wipe Effects (☞ pg. 39). If an unusable mode is selected, its indicator blinks or goes out.



Display



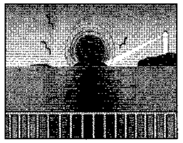
P. AE/EFFECT
☼1 SLOW 4x
☼2 SLOW 10x
VIDEO ECHO
▶ OFF
1/50 SHUTTER 1/50
1/100 SHUTTER 1/100
1/250 SHUTTER 1/250

Programme AE With Special Effects

1. Set the Power Switch to "M" while pressing down the Lock Button located on the switch. Pull out the viewfinder fully or open the LCD monitor fully.
2. Press **MENU/BRIGHT**. The Menu Screen appears.
3. Rotate **MENU/BRIGHT** to select "▣", then press it.
4. Rotate **MENU/BRIGHT** to select the desired mode, then press it. Selection is complete.
   - The P.AE/EFFECT Menu disappears and the selected mode is activated. The selected mode indicator appears.

To Deactivate The Selected Mode . . .
.... select "OFF" in step **4**.

NOTE:
Programme AE with special effects can be changed during recording or during Record-Standby.

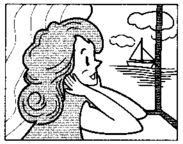


TWILIGHT

Makes evening scenes look more natural. White Balance (☞ pg. 43) is initially set to ☀, but can be changed to your desired setting. When Twilight is chosen, the camcorder automatically adjusts the focus from approx. 10 m to infinity. From less than 10 m, adjust the focus manually. The flash does not fire in this mode.

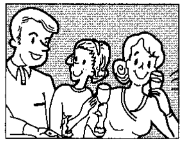
SEPIA[*1]
Recorded scenes have a brownish tint like old photos. Combine this with the Cinema mode for a classic look.

B/W MONOTONE[*1]
Like classic black and white films, your footage is shot in B/W. Used together with the Cinema mode, it enhances the "classic film" effect.



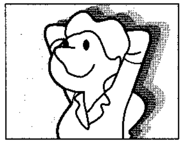
CLASSIC FILM[*2]

Gives recorded scenes a strobe effect.



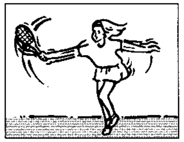
STROBE[*2]

Your recording looks like a series of consecutive snapshots.



VIDEO ECHO[*3]

Adds a "ghost" to the subject, giving your recording a "fantasy" feeling. Zoom magnification of over 10X is not available.



SLOW (Slow Shutter)[*4]

Lights dark subjects or areas even brighter than they would be under good natural lighting. Use "SLOW" only in dark areas.

☼1 SLOW 4X
The Shutter Speed is set to 1/12.5th of a second to quadruple the sensitivity.

☼2 SLOW 10X
The Shutter Speed is set to 1/5th of a second to provide 10 times the sensitivity.

NOTES:
- *When using "SLOW", the image takes on a strobe-like effect.*
- *If the manual focus indicator blinks when "SLOW" is used, adjust focus manually and use a tripod.*

SHUTTER (Variable Shutter Speed)
1/50–The shutter speed is fixed at 1/50th of a second. Black bands that usually appear when shooting a TV screen become narrower.
1/100–The shutter speed is fixed at 1/100th of a second. The flickering that occurs when shooting under a fluorescent light or mercury-vapour lamp is reduced.
1/250 –This setting allows fast-moving images to be captured one frame at a time, for vivid, stable slow-motion playback. The faster the shutter speed, the darker the picture becomes. Use the shutter function under good lighting conditions.

[*1] Not available when the Shooting Mode Dial is set to "DUAL".
[*2] Available only when the Shooting Mode Dial is set to "VIDEO" or "PS".
[*3] Available only when the Shooting Mode Dial is set to "VIDEO" or "VGA".
[*4] Available only when the Shooting Mode Dial is set to "VIDEO", "PS" or "VGA".

Exposure Control

Manual exposure adjustment is recommended in the following situations:

- When shooting using reverse lighting or when the background is too bright.
- When shooting on a reflective natural background such as at the beach or when skiing.
- When the background is overly dark or the subject light.

1 Set the Power Switch to "Ⓜ" while pressing down the Lock Button located on the switch, then pull out the viewfinder fully or open the LCD monitor fully.

2 Press **MENU/BRIGHT**. The Menu Screen appears.

3 Rotate **MENU/BRIGHT** to select "▣", then press it.

4 Rotate **MENU/BRIGHT** to select "MANUAL", then press it. The Menu Screen disappears. "EXP." and the highlight bar on the exposure control indicator are displayed.

5 Rotate **MENU/BRIGHT** towards "+" to brighten the image, or towards "–" to darken the image. (maximum ±6)

6 Press **MENU/BRIGHT**. Exposure adjustment is complete. The indication "EXP." changes to "MANUAL" and the highlight bar on the exposure control indicator goes out.

To Return To Automatic Exposure Control . . .

.... select "AUTO" in step **4**. Or, set the Power Switch to "Ⓐ".

To Brighten The Subject Quickly . . .

.... press **BACKLIGHT**. ▨ is displayed and the subject is brightened. If pressed again, ▨ disappears and the brightness returns to the previous level.

- +3 exposure has the same effect as the **BACKLIGHT** Button.
- Using **BACKLIGHT** may cause the light around the subject to become too bright and the subject to become white.

To Darken The Subject Quickly . . .

.... press **SPOTLIGHT**. ▣ is displayed and the subject is darkened. If pressed again, ▣ disappears and the brightness returns to the previous level.

- –3 exposure has the same effect as the **SPOTLIGHT** Button.
- Using **SPOTLIGHT** may cause the light around the subject to become too dark and the subject to become black.
- Backlight and spotlight compensations are also available when the Power Switch is set to "Ⓐ".

Iris Lock

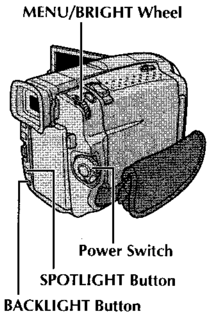
Use this function in the following situations:

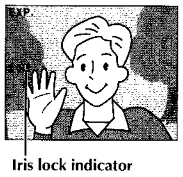
- When shooting a moving subject.
- When the distance to the subject changes (so its size in the LCD monitor or the viewfinder changes), such as when the subject is backing away.
- When shooting on a reflective natural background such as at the beach or when skiing.
- When shooting objects under a spotlight.
- When zooming.

When the subject is close, keep the iris locked. Even when the subject moves away from you, the image will not darken or brighten.

Before the following steps, perform steps 1 through 4 of "Exposure Control".

5 Adjust zoom so that the subject fills the LCD monitor or the viewfinder, then press and hold **MENU/BRIGHT** for over 2 seconds. The exposure control indicator and "🅻" appear. Press **MENU/BRIGHT**. "🅻" changes to "L" and the iris is locked. "EXP." changes to "MANUAL".





To Return To Automatic Iris Control . . .

.... rotate **MENU/BRIGHT** to display "AUTO" then press it in step **4**. The exposure control indicator and "🅻" disappear. Or, set the Power Switch to "Ⓐ".

To Lock The Exposure Control And The Iris . . .

.... after step **4**, adjust the exposure rotating **MENU/BRIGHT**. Then lock the iris in step **5**. For automatic locking, rotate **MENU/BRIGHT** to select "AUTO", then press it in step **4**. The iris becomes automatic after about 2 seconds.

Iris

Like the pupil of the human eye, it contracts in well-lit environments to keep too much light from entering, and dilates in dim environments to allow in more light.

White Balance Adjustment

A term that refers to the correctness of colour reproduction under various lighting. If the white balance is correct, all other colours will be accurately reproduced.

The white balance is usually adjusted automatically. However, more advanced camcorder operators control this function manually to achieve a more professional colour/tint reproduction.

1 Set the Power Switch to "Ⓜ" while pressing down the Lock Button located on the switch, then pull out the viewfinder fully or open the LCD monitor fully.

2 Press **MENU/BRIGHT**. The Menu Screen appears.

3 Rotate **MENU/BRIGHT** to select "▣", then press it. The "W.BALANCE" Menu appears.

4 Rotate **MENU/BRIGHT** to select "MANUAL", and press it. The Menu Screen disappears and "W.BAL" and the currently selected mode are displayed. Rotate it to select the desired mode.

"⊠" – White balance is set manually.
"☀" – Outdoors on a sunny day.
"☁" – Outdoors on a cloudy day.
"✷" – A video light or similar type of lighting is used.

5 Press **MENU/BRIGHT**. Selection is complete.

To Return To Automatic White Balance . . .

.... select "AUTO" in step **4**. Or, set the Power Switch to "Ⓐ".

NOTE:

White balance cannot be used when Sepia or Monotone (☞ pg. 41) is activated.

Manual White Balance Operation

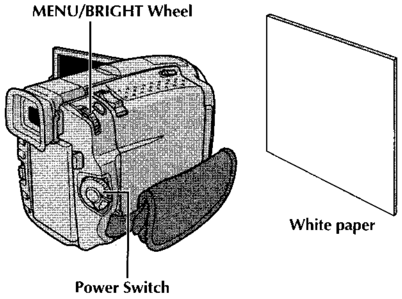
Perform Manual White Balance when shooting under various types of lighting.

1 Follow steps **1** through **4** of the white balance adjustment, and select "⊠ MAN.".

2 Hold a sheet of plain white paper in front of the subject. Adjust zoom or position yourself so that the white paper fills the screen.

3 Press **MENU/BRIGHT** until ⊠ begins blinking. When the setting is completed, ⊠ stops blinking.

4 Press **MENU/BRIGHT**. The indication "W.BAL" changes to "MANUAL" and only the Manual White Balance indicator ⊠ is displayed.

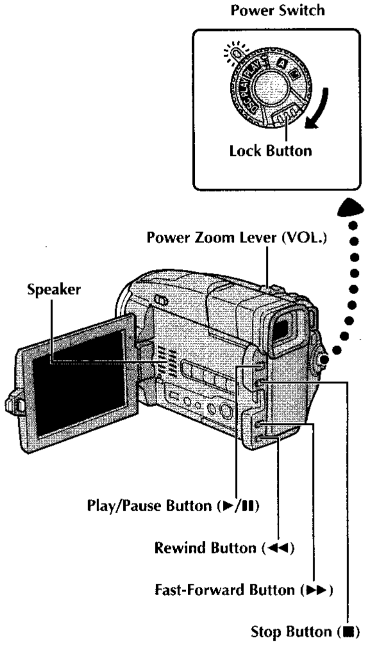


To Change The Tint For Recording . . .

.... in step **2**, substitute coloured paper for white. The white balance is adjusted based on the colour, changing the tint. Red paper = deeper green; blue paper = orange; yellow paper = deeper purple.

NOTES:

- *In step* ***2****, it may be difficult to focus on the white paper. In such a case, adjust focus manually (☞ pg. 27).*
- *A subject can be shot under various types of lighting conditions indoors (natural, flourescent, candlelight, etc.). Because the colour temperature is different depending on the light source, the subject tint will differ depending on the white balance settings. Use this function for a more natural result.*
- *Once you adjust white balance manually, the setting is retained even if the power is turned off or the battery removed.*



1 Load a tape (☞ pg. 10).

2 Set the Power Switch to "PLAY" while pressing down the Lock Button located on the switch. To start playback, press **►/❚❚**.
- To stop playback, press **■**.
- Press **◄◄** to rewind, or **►►** to fast-forward the tape during Stop mode.

To Control The Speaker Volume . . .

.... slide the Power Zoom Lever (**VOL.**) towards "+" to turn up the volume, or towards "–" to turn down the volume.

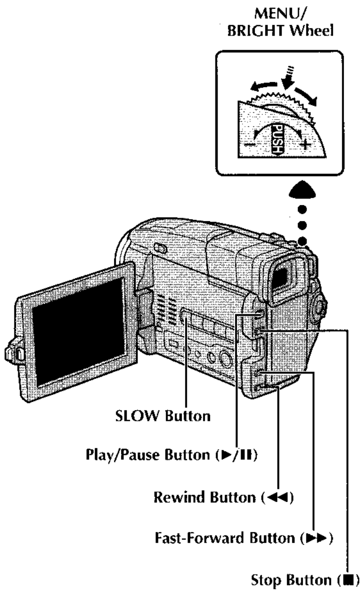
NOTES:
- *If Stop mode continues for 5 minutes when power is supplied from a battery, the camcorder shuts off automatically. To turn on again, set the Power Switch to "OFF", then to "PLAY".*
- *The playback picture can be viewed in the LCD monitor, viewfinder or on a connected TV (☞ pg. 58).*
- *You can also view the playback picture on the LCD monitor with it flipped over and retracted.*
- *LCD monitor/viewfinder indications:*
  - *When power is supplied from a battery: the "▭" battery pack remaining power indicator is displayed. When power is supplied through the DC cord: "▭" does not appear.*
  - *During Stop mode, none of the indications are displayed.*

Still Playback: Pauses during playback.

1) Press **►/❚❚** during playback.
2) To resume normal playback, press **►/❚❚** again.
- *If still playback continues for more than about 3 minutes, the camcorder's Stop mode is automatically engaged. After 5 minutes in the Stop mode, the camcorder's power is automatically turned off.*
- *When* **►/❚❚** *is pressed, the image may not pause immediately while the camcorder stabilises the still image.*

Shuttle Search: Allows high-speed search in either direction.

1) Press **►►** for forward or **◄◄** for reverse search during playback.
2) To resume normal playback, press **►/❚❚**.
- *During playback, press and hold* **◄◄** *or* **►►**. *The search continues as long as you hold the button. Once you release it, normal playback resumes.*
- *A slight mosaic effect appears on screen during Shuttle Search. This is not a malfunction.*



Slow-Motion Playback: Allows slow-speed search in the forward direction.

1) To change from normal to Slow-Motion Playback, press **SLOW** more than approx. 2 seconds. After approx. 2 minutes, normal playback resumes.
- You can also engage Slow-Motion Playback from Still Playback by pressing **SLOW** more than approx. 2 seconds.

■ To resume normal playback, press **►/❚❚**.
- *For Slow Rewind, use the RM-V716U remote control (provided) (☞ pg. 70).*
- *During Slow-Motion Playback, due to digital image processing, the picture may take on a mosaic effect.*
- *After* **SLOW** *is pressed and held, the still image may be displayed for a few seconds, followed by a blue screen for a few seconds. This is not a malfunction.*
- *There may be a small margin between the slow-motion playback start point you chose and the actual start point for Slow-Motion Playback.*
- *During Slow-Motion Playback, there will be disturbances in video and the picture may seem unstable, especially with steady images. This is not a malfunction.*

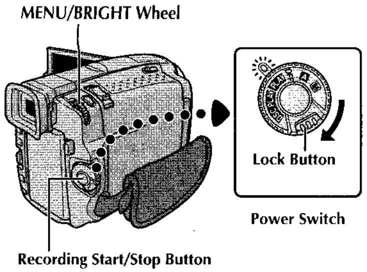
Frame-By-Frame Playback: Allows frame-by-frame search.

1) To change from normal to Frame-By-Frame Playback, press **SLOW** repeatedly. Each time it is pressed, the frame is played back in the forward direction.
Or, rotate **MENU/BRIGHT** towards "+" for forward Frame-By-Frame Playback, or towards "–" for reverse Frame-By-Frame Playback during Still Playback.
- You can also engage Frame-By-Frame Playback in the forward direction from Still Playback by pressing **SLOW** repeatedly.

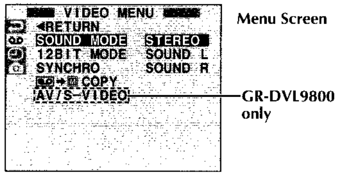
■ To resume normal playback, press **►/❚❚**.
- *You can also use the provided RM-V716U remote control for Frame-By-Frame Playback (☞ pg. 70).*

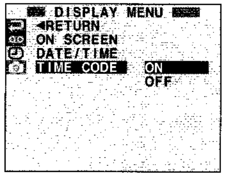
Playback Zoom and Playback Special Effects

Available only with the RM-V716U remote control (provided) (☞ pg. 70, 71).



Display





Using Menus For Detailed Adjustment

The following procedure applies to all except *Synchro Comp (☞ pg. 76, 77).*

1. Set the Power Switch to "PLAY" while pressing down the Lock Button located on the switch.
2. Press **MENU/BRIGHT**. The Menu Screen appears.
3. Rotate **MENU/BRIGHT** to select the desired function icon, and press it. The selected function menu appears.
4. Rotate **MENU/BRIGHT** to select the desired function, and press it to display the Sub Menu.
5. Rotate **MENU/BRIGHT** to select the desired parameter and press it. Selection is complete.
6. Rotate **MENU/BRIGHT** to select "◀RETURN" and press it twice to close the Menu Screen.

VIDEO MENU	SOUND MODE	☞ pg. 47.
	12BIT MODE	☞ pg. 47.
	SYNCHRO	☞ pg. 77.
	📼 → 🄼 COPY	**ON**: Enables dubbing of images recorded on a tape to a MultiMediaCard (☞ pg. 67). **OFF**: Enables snapshots to be taken during video playback.
	AV/S-VIDEO (GR-DVL9800 only)	**ON**: Enables audio/video signal input from the AV and S-VIDEO connectors (☞ pg. 63). **OFF**: Enables audio/video signal output to a TV, VCR, etc. via the AV and S-VIDEO connectors. (☞ pg. 58, 62)
DISPLAY MENU	ON SCREEN*	Makes the camcorder's indications appear/ disappear from the connected TV screen.
	DATE/TIME*	Makes the date/time appear/disappear on the camcorder.
	TIME CODE*	Makes the time code appear/disappear on the camcorder.

* Each setting is linked with "DISPLAY MENU", which appears when the Power Switch is set to "🄼" (☞ pg. 33). The parameters are the same as in the description on pg. 33.

NOTES:

- *It is also possible to change the ON SCREEN settings by pressing **DISPLAY** on the RM-V716U remote control (provided).*
- *If "ON SCREEN" is set to "SIMPLE", it keeps the camcorder's display (except the date, time and time code) from appearing on the connected TV. It also makes the playback sound mode and tape speed disappear on the camcorder.*

Playback Sound

During playback, the camcorder detects the sound mode in which the recording was made, and plays the sound back. Select the type of sound to accompany your playback picture. According to the menu access explanation on pg. 46, select "SOUND MODE" or "12BIT MODE" from the Menu Screen and set it to the desired parameter.

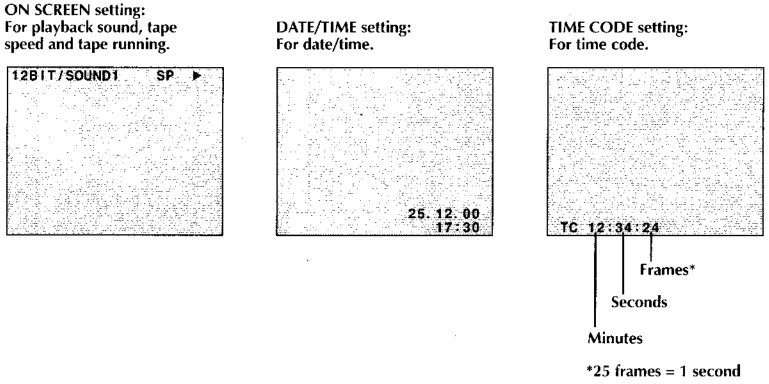
SOUND MODE	STEREO	Sound is output on both "L" and "R" channels in stereo.
	SOUND L	Sound from the "L" channel is output in stereo.
	SOUND R	Sound from the "R" channel is output in stereo.
12BIT MODE	SOUND 1	Original sound is output on both "L" and "R" channels in stereo.
	SOUND 2	Dubbed sound is output on both "L" and "R" channels in stereo.
	MIX	Original and dubbed sounds are combined and output in stereo on both "L" and "R" channels in stereo.

▨ : Factory-preset

NOTES:

- *The "SOUND MODE" setting is available for both 12-bit and 16-bit sound. (In previous models' functions, "12-bit" is called "32 kHz" and "16-bit" is called "48 kHz".)*
- *The camcorder cannot detect the sound mode in which the recording was made during fast-forward or rewind. During playback the sound mode is displayed in the upper left corner.*

Display

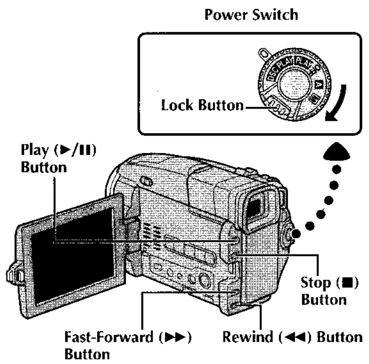


ON SCREEN setting:
For playback sound, tape speed and tape running.

DATE/TIME setting:
For date/time.

TIME CODE setting:
For time code.

***25 frames = 1 second**


Power Switch
Lock Button
Play (▶/II) Button
Stop (■) Button
Fast-Forward (▶▶) Button
Rewind (◀◀) Button

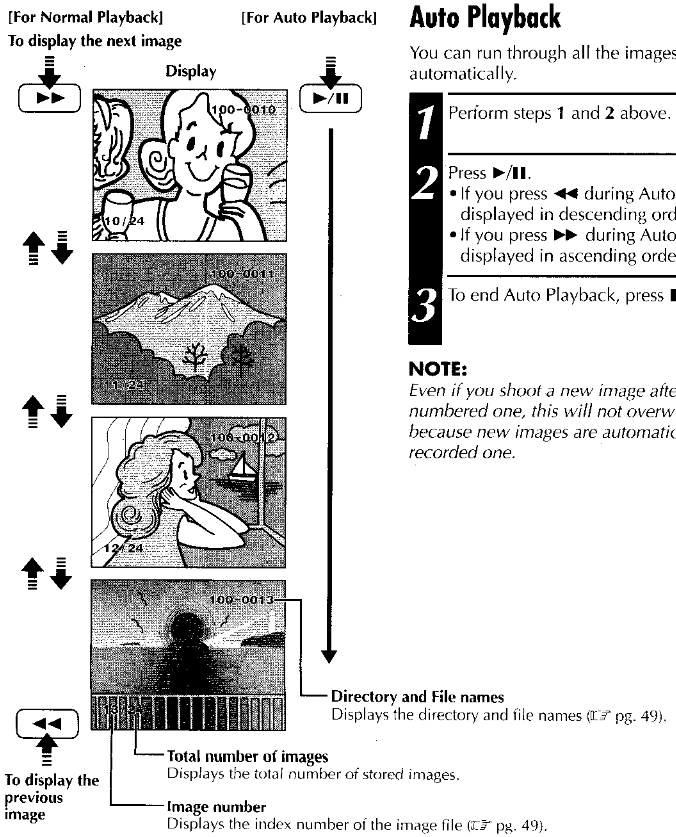
Normal Playback

Images shot with the camcorder are automatically numbered, then stored in numerical order in the MultiMediaCard. You can view the stored images, one at a time, much like flipping through a photo album.

1 Load a MultiMediaCard (☞ pg. 12).

2 Set the Power Switch to "DSC PLAY" while pressing down the Lock Button. Open the LCD monitor fully or pull out the viewfinder fully.
- A stored image is displayed.

3 Press ▶▶ to display the next image.
Press ◀◀ to display the previous image.


[For Normal Playback]
[For Auto Playback]
To display the next image
Display
▶▶
▶/II
100-0010
10/24
100-0011
11/24
100-0012
12/24
100-0013
13/24
◀◀
To display the previous image

Directory and File names
Displays the directory and file names (☞ pg. 49).

Total number of images
Displays the total number of stored images.

Image number
Displays the index number of the image file (☞ pg. 49).

Auto Playback

You can run through all the images stored in memory automatically.

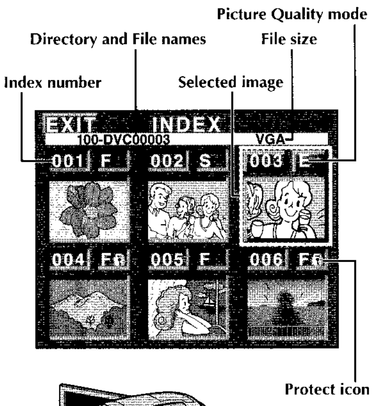
1 Perform steps **1** and **2** above.

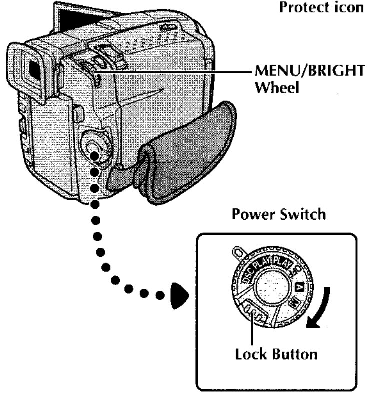
2 Press ▶/II.
- If you press ◀◀ during Auto Playback, images are displayed in descending order.
- If you press ▶▶ during Auto Playback, images are displayed in ascending order.

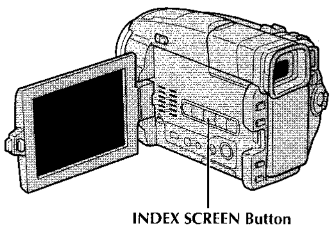
3 To end Auto Playback, press ■.

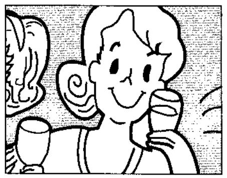
NOTE:

Even if you shoot a new image after playing back a low-numbered one, this will not overwrite an existing image, because new images are automatically stored after the last-recorded one.


Picture Quality mode
Directory and File names
File size
Index number
Selected image
EXIT
INDEX
100-DVC00003
VGA
001 F
002 S
003 E
004 F
005 F
006 F
Protect icon


MENU/BRIGHT Wheel
Power Switch
Lock Button


INDEX SCREEN Button


Playback Screen

INDEX Screen

The images you shot can be displayed together with their index information. Convenient for checking images shot beforehand, the INDEX Screen also shows the Picture Quality mode, directory and file names as well as which images are protected against accidental erasure.

100-DVC00003: Directory and File names

Shows that the selected shot is in a directory called "100" and its file name is "DVC00003".
Each time shooting takes place, a file name is made using a number which is larger by one than the largest number of the file names which are in use. If the file name reaches DVC09999, a new directory will be made and the file name will start again from DVC00001.
In the playback screen (☞ pg. 48), the directory and only the last four digits of the file name are displayed.

VGA: File size

Displays the file size of the stored image. There are 2 modes available: XGA and VGA (☞ pg. 15).

001: Index number

Index numbers are marked from 001. For example, when 10 images are stored (index number: 001 to 010), if three images with index numbers 002, 004 and 006 are deleted from memory, the remaining images are automatically moved up to fill any gaps in the numerical sequence. Therefore, the number of remaining images is 7, and the new index numbers range from 001 to 007.

F/S/E: Picture Quality mode

Displays the Picture Quality mode of the stored image. There are 3 modes available: FINE, STANDARD and ECONOMY (in order of quality) (☞ pg. 13).

🔒: Protect icon

When an image is protected against its accidental erasure, a padlock mark appears next to the Picture Quality mode indicator, and that image cannot be deleted.

Selected Image

An image is framed in green like this when it is selected. Rotate **MENU/BRIGHT** to move the green frame to the desired image.

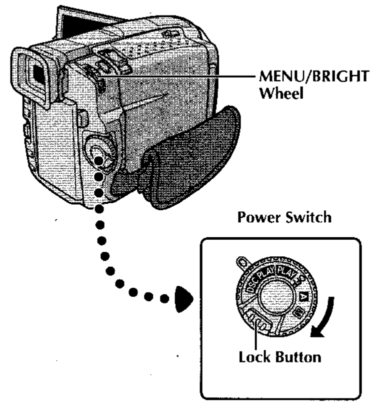
Index Playback

You can view the images stored in memory six at a time. Use this mode when looking for an image you wish to view.

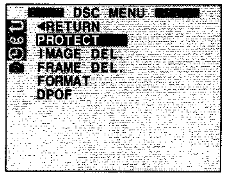
1 Perform steps **1** and **2** of "Normal Playback" on pg. 48.

2 To access the INDEX Screen, press **INDEX SCREEN**.

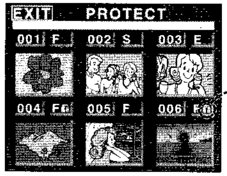
3 Rotate **MENU/BRIGHT** to move the green frame to the desired image and press it. The image selected in the INDEX Screen is displayed.



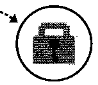
Display



Menu Screen



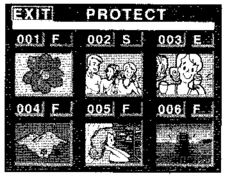
PROTECT Index Screen



Padlock mark

Normal playback

If Protection is removed



Normal playback

Protecting Images

The Protect mode helps prevent the accidental erasure of images. When a padlock mark is displayed next to the Picture Quality Mode indication, that image cannot be deleted.

1 Set the Power Switch to " DSC PLAY " while pressing down the Lock Button. Open the LCD monitor fully or pull out the viewfinder fully.
- A stored image is displayed.

2 Press **MENU/BRIGHT**. The Menu Screen appears. Rotate it to select " 📷 " and press it. "DSC MENU" appears.

3 Rotate **MENU/BRIGHT** to select "PROTECT" and press it. The PROTECT Index Screen appears.

TO PROTECT AN IMAGE

Before doing the following, perform steps **1** through **3** above.

4 Rotate **MENU/BRIGHT** to move the green frame to the desired image and press it. A " 🔒 " padlock mark appears on the selected image.
Repeat this procedure for all images you do not wish to delete by accident.

5 Rotate **MENU/BRIGHT** upward to select "EXIT" and press it. The normal playback screen appears.

NOTE:

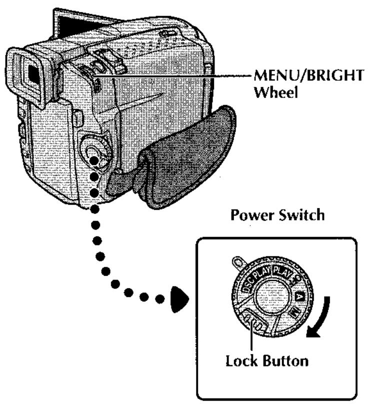
When the memory is initialised or corrupted, even protected images are deleted. If you do not want to lose important images, transfer them to a PC and save them.

TO REMOVE PROTECTION

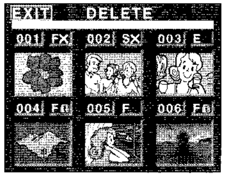
Before doing the following, perform steps **1** through **3** above.

4 Rotate **MENU/BRIGHT** to move the green frame to the desired image and press it. The " 🔒 " padlock mark located above the image disappears and the image is no longer protected.
Repeat this procedure for all images from which you wish to remove protection.

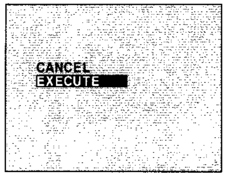
5 Rotate **MENU/BRIGHT** upward to select "EXIT" and press it. The normal playback screen appears.



Display



DELETE Index Screen



Deletion Confirmation Screen

CAUTION:

While deleting images, never remove the MultiMediaCard or disconnect power, as this may cause the memory to be corrupted. Also, be sure to use the AC Power Adapter/Charger, as a malfunction may occur if the battery become exhausted halfway through the operation.

Deleting Images

Previously shot images can be deleted either one at a time or all at once.

1 Set the Power Switch to " DSC PLAY " while pressing down the Lock Button. Open the LCD monitor fully or pull out the viewfinder fully.
- A stored image is displayed.

2 Press **MENU/BRIGHT**. The Menu Screen appears. Rotate it to select " 📷 " and press it. "DSC MENU" appears.

3 Rotate **MENU/BRIGHT** to select "IMAGE DEL." and press it. The Sub Menu appears.

TO SELECT AN IMAGE BY BROWSING IMAGES STORED IN MEMORY

Before doing the following, perform steps **1** through **3** above.

4 Rotate **MENU/BRIGHT** to select "SELECTED" and press it. The DELETE Index Screen appears.

5 Rotate **MENU/BRIGHT** to move the green frame to the desired image that you wish to delete and press it. An " **X** " appears above the selected image.
Repeat this procedure for all images that you wish to delete.
To deselect an image, press **MENU/BRIGHT** again. The " **X** " disappears.

6 Rotate **MENU/BRIGHT** upward to select "EXIT" and press it. The Deletion Confirmation Screen appears.

7 Rotate **MENU/BRIGHT** to select "EXECUTE" and press it. The selected images are deleted and the normal playback screen appears.
- To cancel deletion, rotate **MENU/BRIGHT** to select "CANCEL" and press it.

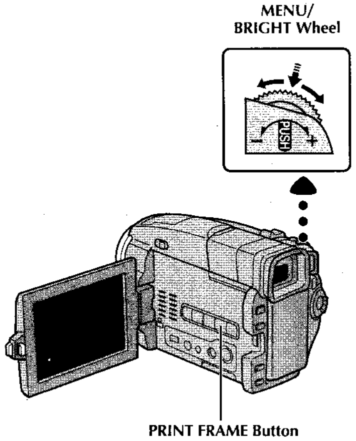
TO DELETE ALL IMAGES

Before doing the following, perform steps **1** through **3** above.

4 Rotate **MENU/BRIGHT** to select "ALL" and press it. The Deletion Confirmation Screen appears.

5 Rotate **MENU/BRIGHT** to select "EXECUTE" and press it. All the images are deleted.
- To cancel deletion, rotate **MENU/BRIGHT** to select "CANCEL" and press it.

NOTES:
- *Protected images (☞ pg. 50) cannot be deleted with the above operation. To delete them, remove protection first.*
- *Once images are deleted, they cannot be restored. Check images before deleting.*


MENU/
BRIGHT Wheel
PUSH
−
+
PRINT FRAME Button

Superimposing A Print Frame

A selection of print frames are stored in the camcorder. A frame can be superimposed over a still image.

1 Play back an image stored in the MultiMediaCard.

2 Press **PRINT FRAME**. The Print Frame Index Screen appears.

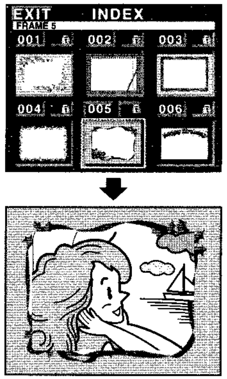
3 Rotate **MENU/BRIGHT** to move the green frame to the desired print frame and press it. Selection is complete. The selected print frame is superimposed over the still image.

To Make The Print Frame Disappear . . .
.... press **PRINT FRAME**.

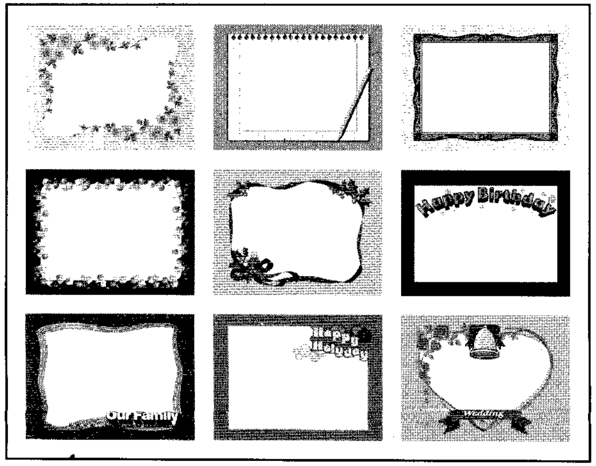
NOTES:

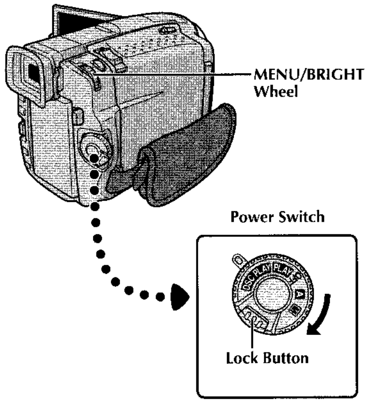
- *A print frame created on a PC can be transferred to a MultiMediaCard using the provided software. Transferred print frames are displayed from print frame index number 010, and they can be used together with the print frames in the camcorder's memory. For details on creating/transferring print frames, refer to the software instructions.*
- *Depending on the images you play back, the print frame outline may become grainy or vague.*

Display

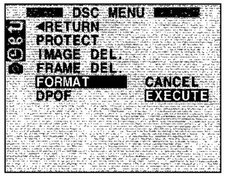

EXIT
INDEX
FRAME 5
001
002
003
004
005
006

Print Frame Index Screen


Happy Birthday
Happy Holiday
Our Family
Wedding


MENU/BRIGHT
Wheel
Power Switch
DSC PLAY
Lock Button

Display


DSC MENU
◄RETURN
PROTECT
IMAGE DEL.
FRAME DEL.
FORMAT
DPOF
CANCEL
EXECUTE

Menu Screen

Initialising A MultiMediaCard

You can initialise a MultiMediaCard anytime.
After initialising, all images and data stored in the MultiMediaCard, including those which have been protected, are cleared.

1 Set the Power Switch to " DSC PLAY ", while pressing down the Lock Button located on the switch. Open the LCD monitor fully or pull out the viewfinder fully.

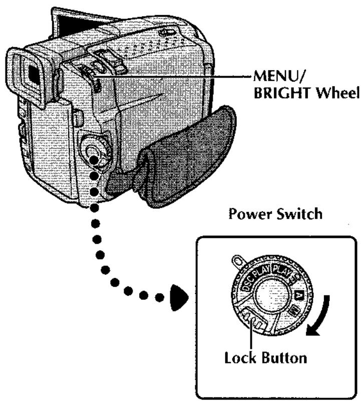
2 Press **MENU/BRIGHT**. The Menu Screen appears.

3 Rotate **MENU/BRIGHT** to select " ▣ " and press it. "DSC MENU" appears.

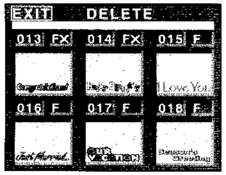
4 Rotate **MENU/BRIGHT** to select "FORMAT" and press it. The Sub Menu appears.

5 Rotate **MENU/BRIGHT** to select "EXECUTE" and press it. The MultiMediaCard is initialised. When initialisation is finished, "NO STORED IMAGE" appears.
- To cancel initialisation, rotate **MENU/BRIGHT** to select "CANCEL" and press it.

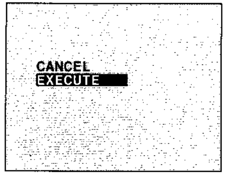
CAUTION:
Do not perform any other operation (such as turning off the camcorder) during initialisation. Also, be sure to use the provided AC Power Adapter/Charger, as the MultiMediaCard may be corrupted if the battery becomes exhausted during initialisation.



Display



DELETE Index Screen



Deletion Confirmation Screen

CAUTION:

While deleting print frames, never remove the MultiMediaCard or disconnect power, as this may cause the memory to be corrupted. Also, be sure to use the AC Power Adapter/Charger, as a malfunction may occur if the battery become exhausted halfway through the operation.

Print Frame Deletion

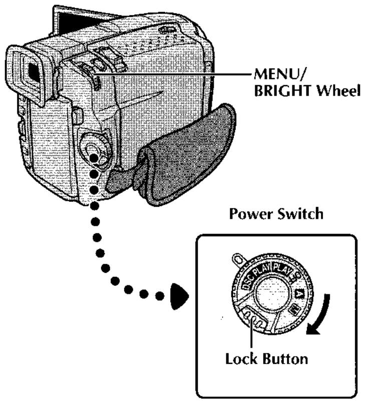
A print frame created on a PC can be transferred to a MultiMediaCard using the provided software. Print frames that have been transferred to a MultiMediaCard can be deleted when they are no longer needed.
There are 2 ways of deleting previously created print frames: by browsing through print frames individually or by deleting them all at once.

TO SELECT A PRINT FRAME BY BROWSING PRINT FRAMES STORED IN MEMORY

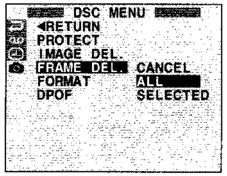
1. Set the Power Switch to " DSC PLAY " while pressing down the Lock Button.
2. Press **MENU/BRIGHT**. The Menu Screen appears.
3. Rotate **MENU/BRIGHT** to select " 📷 " and press it. "DSC MENU" appears.
4. Rotate **MENU/BRIGHT** to select "FRAME DEL." and press it. The Sub Menu appears.
5. Rotate **MENU/BRIGHT** to select "SELECTED" and press it. The DELETE Index Screen appears.
6. Rotate **MENU/BRIGHT** to move the green frame to the desired print frame that you wish to delete and press it. An " **X** " appears above the selected print frame. Repeat this procedure for all print frames that you wish to delete.
   To deselect a print frame, press **MENU/BRIGHT** again. The " **X** " disappears.
7. Rotate **MENU/BRIGHT** upward to select "EXIT" and press it. The Deletion Confirmation Screen appears.
8. Rotate **MENU/BRIGHT** to select "EXECUTE" and press it. The selected print frames are deleted and the normal playback screen appears.
   - To cancel deletion, rotate **MENU/BRIGHT** to select "CANCEL" and press it.

NOTES:

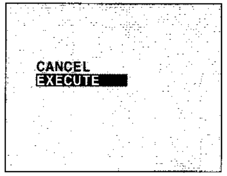
- *If print frames created on a PC have not been transferred to a MultiMediaCard, it is not possible to delete them using these steps.*
- *The print frames in the camcorder's memory cannot be deleted.*



Display



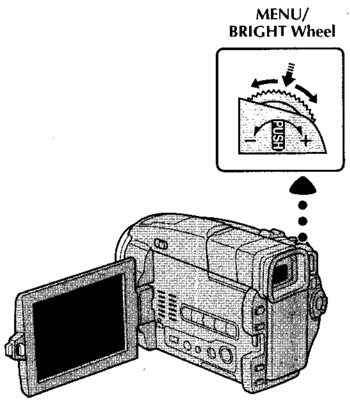
Menu Screen



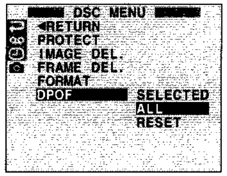
Deletion Confirmation Screen

TO DELETE ALL PRINT FRAMES

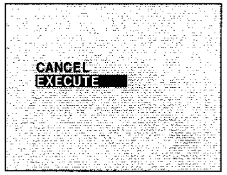
1. Perform steps **1** through **4** on pag. 54.
2. Rotate **MENU/BRIGHT** to select "ALL" and press it. The Deletion Confirmation Screen appears.
3. Rotate **MENU/BRIGHT** to select "EXECUTE" and press it. All the print frames are deleted.
   - To cancel deletion, rotate **MENU/BRIGHT** to select "CANCEL" and press it.



Display



Menu Screen



Setting Print Information (DPOF Setting)

This camcorder is compatible with the DPOF (Digital Print Order Format) standard in order to support future systems such as automatic printing, which records information about the still images you wish to print (such as the number of prints to make). There are 2 print information settings available: "To print all still images (one print for each)" explained below and "To print by selecting still images and no. of prints" (☞ pg. 57).

TO PRINT ALL STILL IMAGES (ONE PRINT FOR EACH)

1 Set the Power Switch to " DSC PLAY " while pressing down the Lock Button located on the switch. Open the LCD monitor fully or pull out the viewfinder fully.

2 Press **MENU/BRIGHT**. The Menu Screen appears.

3 Rotate **MENU/BRIGHT** to select " 📷 " and press it. "DSC MENU" appears.

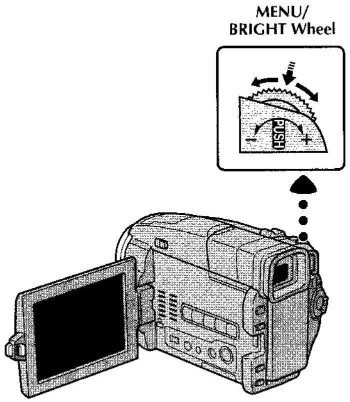
4 Rotate **MENU/BRIGHT** to select "DPOF" and press it. The Sub Menu appears.

5 Rotate **MENU/BRIGHT** to select "ALL" and press it. Selection is complete. The Confirmation Screen appears.

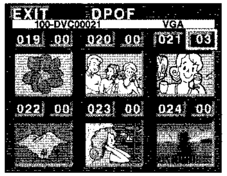
6 Rotate **MENU/BRIGHT** to select "EXECUTE" and press it. The normal playback screen appears.
- To cancel selection, rotate **MENU/BRIGHT** to select "CANCEL" and press it.

To Reset The Setting . . .

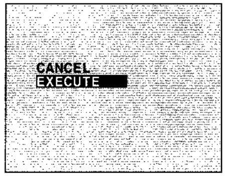
.... select "RESET" in step **5**. The setting is reset to 0 for all still images.



Display



DPOF Screen



Confirmation Screen

TO PRINT BY SELECTING STILL IMAGES AND NO. OF PRINTS

1 Perform steps **1** through **4** on pg. 56.

2 Rotate **MENU/BRIGHT** to select "SELECTED" and press it. Selection is complete. The DPOF Screen appears.

3 Rotate **MENU/BRIGHT** to move the green frame to the image you wish to print and press it.

4 Select the number of prints by rotating **MENU/ BRIGHT** towards "+" to increase the number, or towards "–" to decrease the number and press it. Repeat steps **3** and **4** for the desired number of prints.
- The number of prints can be set up to 15.
- To correct the number of prints, select the image again and change the number.

5 Rotate **MENU/BRIGHT** upward to select "EXIT" and press it. Selection is complete. The Confirmation Screen appears.

6 Rotate **MENU/BRIGHT** to select "EXECUTE" and press it. The normal playback screen appears.
- To cancel selection, rotate **MENU/BRIGHT** to select "CANCEL" and press it.

To Reset The No. Of Prints . . .

.... select "RESET" in step **5** on pg. 56. The number of prints is reset to 0 for all still images.

CAUTION:

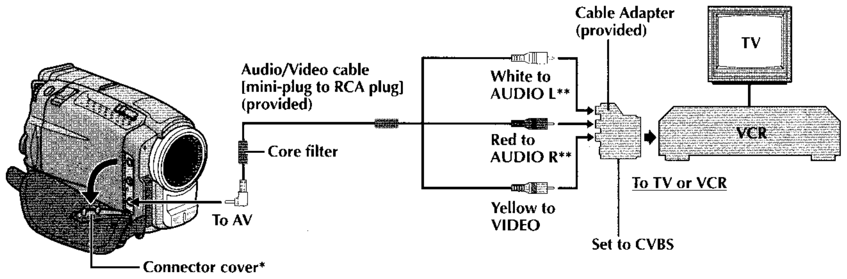
While performing the above, never disconnect power, as this may cause the memory to be corrupted. For safety, all buttons including the Power Switch are disabled in step **5**.

NOTE:

To print images recorded on a tape, first dub them to a MultiMediaCard (☞ pg. 67).

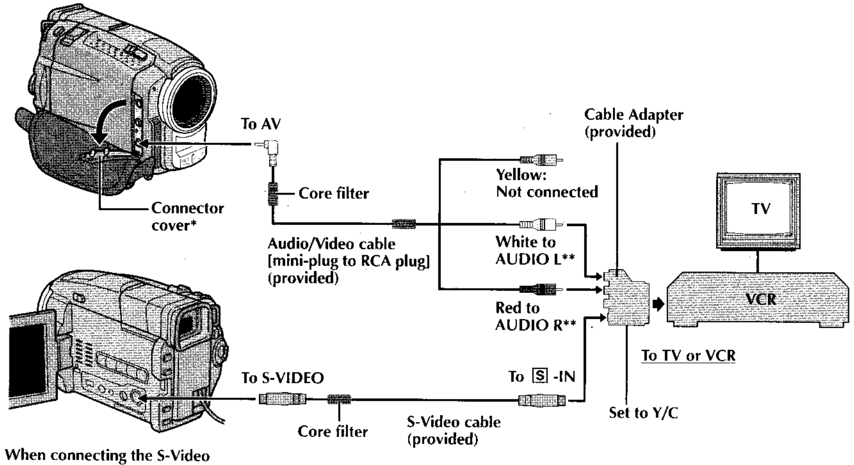
These are some basic types of connections. When making the connections, refer also to your VCR and TV instruction manuals.

A. Connection to a TV or VCR equipped with a SCART connector compatible only with regular video signal


Cable Adapter (provided)
TV
Audio/Video cable [mini-plug to RCA plug] (provided)
White to AUDIO L**
Core filter
Red to AUDIO R**
VCR
To TV or VCR
Yellow to VIDEO
To AV
Set to CVBS
Connector cover*

* When connecting the cables, open this cover.
** The Audio cable is not required for watching still images with the Power Switch set to " DSC PLAY ".

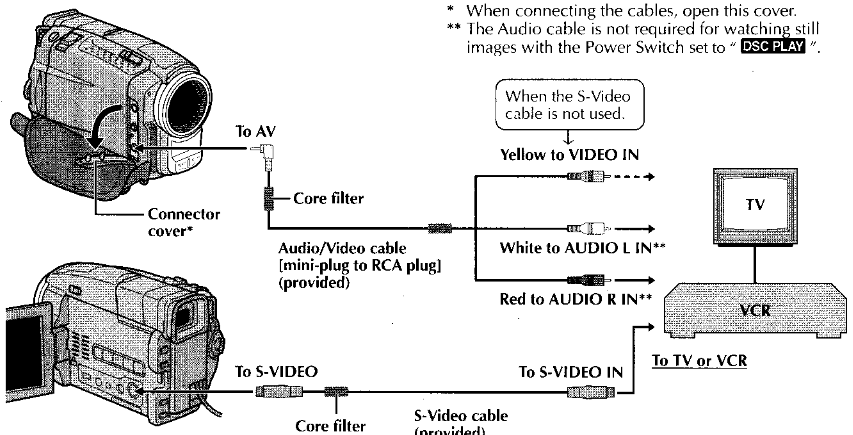
B. Connection to a TV or VCR equipped with a SCART connector compatible with Y/C signal


To AV
Cable Adapter (provided)
Yellow: Not connected
Core filter
Connector cover*
TV
Audio/Video cable [mini-plug to RCA plug] (provided)
White to AUDIO L**
Red to AUDIO R**
VCR
To TV or VCR
To S-VIDEO
To S -IN
Set to Y/C
Core filter
S-Video cable (provided)

When connecting the S-Video cable, open the LCD monitor.

* When connecting the cables, open this cover.
** The Audio cable is not required for watching still images with the Power Switch set to " DSC PLAY ".

C. Connection to a TV or VCR equipped with an S-VIDEO IN and/or A/V input (RCA type) connectors


When the S-Video cable is not used.
Yellow to VIDEO IN
To AV
Core filter
Connector cover*
TV
Audio/Video cable [mini-plug to RCA plug] (provided)
White to AUDIO L IN**
Red to AUDIO R IN**
VCR
To TV or VCR
To S-VIDEO
To S-VIDEO IN
Core filter
S-Video cable (provided)

* When connecting the cables, open this cover.
** The Audio cable is not required for watching still images with the Power Switch set to " DSC PLAY ".

When connecting the S-Video cable, open the LCD monitor.

1 Make sure all units are turned off.

2 Connect the camcorder to a TV or VCR as shown in the illustration (☞ pg. 58).
If using a VCR . . . go to step 3.
If not . . . go to step 4.

3 Connect the VCR output to the TV input, referring to your VCR's instruction manual.

4 Turn on the camcorder, the VCR and the TV.

5 Set the VCR to its AUX input mode, and set the TV to its VIDEO mode.

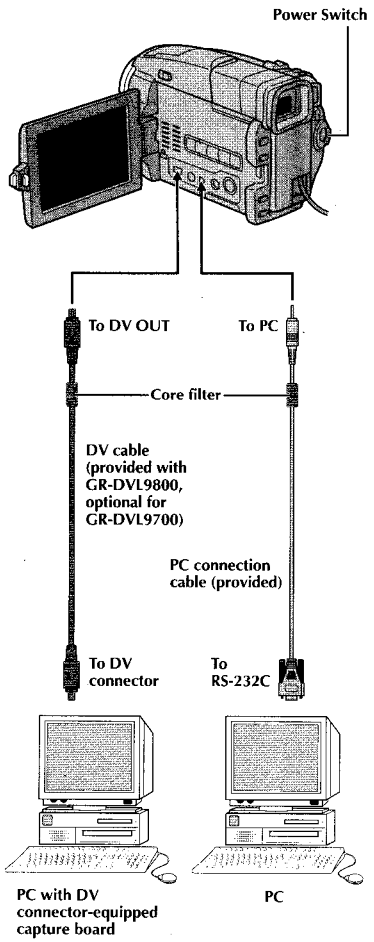
6 **[For GR-DVL9800 owners only]**
Set "AV/S-VIDEO" to "OFF" in the Menu Screen (☞ pg. 46).

To choose whether or not the following displays appear on the connected TV . . .

- Date/Time
  .... set "DATE/TIME" to "AUTO", "ON" or "OFF" in the Menu Screen (☞ pg. 46).
- Time Code
  .... set "TIME CODE" to "ON" or "OFF" in the Menu Screen (☞ pg. 46).
- Playback Sound Mode, Tape Speed And Tape Running Displays for video playback
  Or
  Directory/File Names and Image Number/Total Number of Images for D.S.C. Playback
  .... set "ON SCREEN" to "LCD" or "SIMPLE" in the Menu Screen (☞ pg. 46). Or, press **DISPLAY** on the RM-V716U remote control.

NOTES:

- ***It is recommended to use the AC Power Adapter/ Charger as the power supply instead of the battery pack (☞ pg. 7).***
- ***Use the provided cables, making sure to connect the ends with a core filter to the camcorder. The core filter reduces interference.***
- *To monitor the picture and sound from the camcorder without inserting a tape or MultiMediaCard, set the camcorder's Power Switch to "A" or "M", then set your TV to the appropriate input mode.*
- *Make sure you adjust the TV sound volume to its minimum level to avoid a sudden burst of sound when the camcorder is turned on.*
- *If you have a TV or speakers that are not specially shielded, do not place the speakers adjacent to the TV as interference will occur in the camcorder playback picture.*
- *Set the video out select switch of the cable adapter as required:*
  Y/C : When connecting to a TV or VCR which accepts Y/C signals and uses an S-Video cable.
  CVBS : When connecting to a TV or VCR which does not accept Y/C signals and uses an audio/video cable.


Power Switch
To DV OUT
To PC
Core filter
DV cable (provided with GR-DVL9800, optional for GR-DVL9700)
PC connection cable (provided)
To DV connector
To RS-232C
PC with DV connector-equipped capture board
PC

Connection To A Personal Computer

This camcorder can transfer still images to a PC by using the provided software when connected as shown in the illustration. It is also possible to transfer still images to a PC with a DV connector-equipped capture board installed.

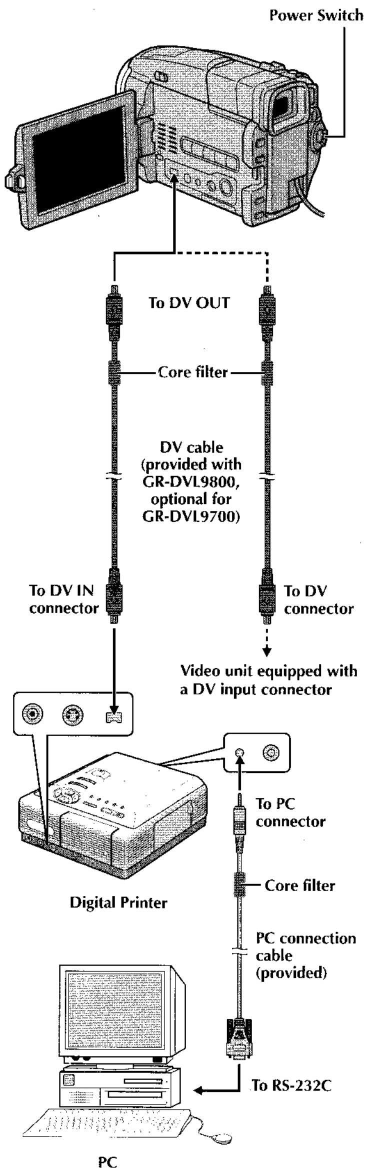
1 Make sure the camcorder and PC are turned off.

2 Connect the camcorder to your PC using the appropriate cable as shown in the illustration.

3 Turn the camcorder's Power Switch to " PLAY " while pressing down the Lock Button located on the switch and turn on the PC.

NOTES:

- ***It is recommended to use the AC Power Adapter/ Charger as the power supply instead of the battery pack (☞ pg. 7).***
- ***Never connect the PC connection cable and the DV cable simultaneously to the camcorder. Connect only the cable you wish to use to the camcorder.***
- *The date/time information cannot be captured into the PC.*
- *Refer to the instruction manuals of the provided Software.*
- *Also refer to the manufacturer's instruction manual for the DV connector-equipped capture board.*
- ***When using a DV cable, be sure it has a core filter attached. The core filter reduces interference.***


Power Switch
To DV OUT
Core filter
DV cable (provided with GR-DVL9800, optional for GR-DVL9700)
To DV IN connector
To DV connector
Video unit equipped with a DV input connector
To PC connector
Core filter
Digital Printer
PC connection cable (provided)
To RS-232C
PC

Connection To A Video Unit Equipped With A DV Connector

Connection to the GV-DT3 Digital Printer (optional) allows you to print out images or transfer them to a PC. It is also possible to copy recorded scenes from the camcorder onto another video unit equipped with a DV connector. This function is called Digital Dubbing (☞ pg. 64, 65), which offers virtually no image or sound deterioration.

1 Make sure all units are turned off.

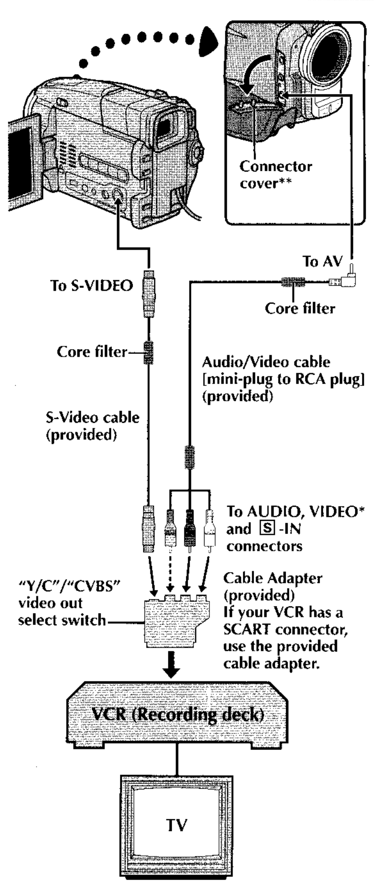
2 Make connections to the device you want to connect to using a DV cable, as shown in the illustration.

3 If necessary, connect the PC connection cable (provided) to the printer's PC connector and the PC's RS-232C connector.

4 Turn the camcorder's Power Switch to " PLAY " while pressing down the Lock Button located on the switch and turn on the other units.

NOTES:

- ***It is recommended to use the AC Power Adapter/ Charger as the power supply instead of the battery pack (☞ pg. 7).***
- *For Digital Dubbing, this camcorder can be connected only to one device at a time. The GR-DVL9800 can be used as both a player and a recorder. The GR-DVL9700 can be used only as a player (☞ pg. 64, 65).*
- *If Still Playback, Slow-Motion Playback, Fast-Forward or Rewind is attempted with the camcorder connected to a video unit via the DV connector, the image will take on an effect similar to a coloured mosaic pattern or it will become black.*
- *Also refer to the instruction manuals of the connected units.*
- ***When using a DV cable, be sure it has a core filter attached. The core filter reduces interference.***


Connector cover**
To AV
Core filter
To S-VIDEO
Core filter
Audio/Video cable [mini-plug to RCA plug] (provided)
S-Video cable (provided)
To AUDIO, VIDEO* and S-IN connectors
"Y/C"/"CVBS" video out select switch
Cable Adapter (provided) If your VCR has a SCART connector, use the provided cable adapter.
VCR (Recording deck)
TV

* Connect when an S-Video cable is not used.
** When connecting the cables, open this cover.

Dubbing Images/Sounds Recorded On A Tape To Another Tape

[To use this camcorder as a player]

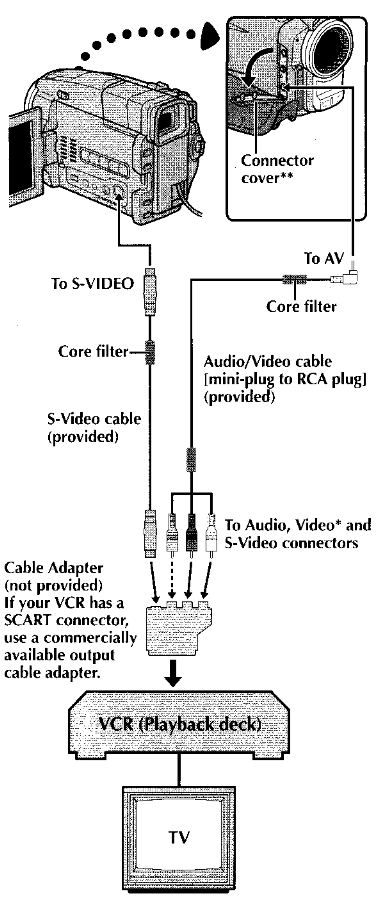
1. Make sure all units are turned off, then connect the camcorder and the VCR as shown in the illustration. Also refer to pg. 58 and 59.
2. Set the camcorder's Power Switch to "PLAY" while pressing down the Lock Button located on the switch, turn on the VCR's power, and insert the appropriate cassettes in the camcorder and the VCR.
3. **[For GR-DVL9800 owners only]** Set "AV/S-VIDEO" to "OFF" in the Menu Screen (☞ pg. 46).
4. Engage the VCR's AUX and Record-Pause modes.
5. Engage the camcorder's Play mode to find a spot just before the edit-in point. Once it is reached, press ▶/❚❚ on the camcorder.
6. Press ▶/❚❚ on the camcorder and engage the VCR's Record mode.
7. Engage the VCR's Record-Pause mode and press ▶/❚❚ on the camcorder.
8. Repeat steps **5** through **7** for additional editing, then stop the VCR and camcorder when finished.

Before you start dubbing, make sure that the indications do not appear on the connected TV. If they do, they are being recorded onto the new tape.
To choose whether or not the following displays appear on the connected TV . . .

- Date/Time
  .... set "DATE/TIME" to "AUTO", "ON" or "OFF" in the Menu Screen (☞ pg. 46).
- Time Code
  .... set "TIME CODE" to "ON" or "OFF" in the Menu Screen (☞ pg. 46).
- Playback Sound Mode, Tape Speed And Tape Running Displays
  .... set "ON SCREEN" to "LCD" or "SIMPLE" in the Menu Screen (☞ pg. 46). Or, press **DISPLAY** on the RM-V716U remote control.

NOTES:

- ***Use the provided cables, making sure to connect the ends with a core filter to the camcorder. The core filter reduces interference.***
- *Set the video out select switch of the cable adapter as required:*
  Y/C : When connecting to a TV or VCR which accepts Y/C signals and uses an S-Video cable.
  CVBS : When connecting to a TV or VCR which does not accept Y/C signals and uses an audio/video cable.
- *You can use Playback Zoom (☞ pg. 70) or Playback Special Effects (☞ pg. 71) in step* ***6****.*
- ***It is recommended to use the AC Power Adapter/ Charger as the power supply instead of the battery pack (☞ pg. 7).***


Connector cover**
To AV
Core filter
To S-VIDEO
Core filter
Audio/Video cable [mini-plug to RCA plug] (provided)
S-Video cable (provided)
To Audio, Video* and S-Video connectors
Cable Adapter (not provided) If your VCR has a SCART connector, use a commercially available output cable adapter.
VCR (Playback deck)
TV

* Connect when an S-Video cable is not used.
** When connecting the cables, open this cover.

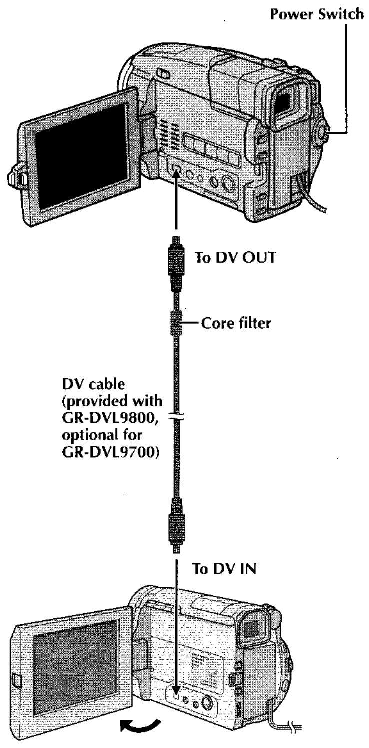
Dubbing Images/Sounds Recorded On A Tape To Another Tape

[To use this camcorder as a recorder: Only for GR-DVL9800 owners]

1. Make sure all units are turned off, then connect the camcorder and the VCR as shown in the illustration. Also refer to pg. 58 and 59.
2. Set "SOUND MODE" to "12 BIT" or "16 BIT" and "REC MODE" to "SP" or "LP" in the Menu Screen depending on your preference (☞ pg. 11, 30, 31).
3. Set the camcorder's Power Switch to "PLAY" while pressing down the Lock Button located on the switch. Turn on the VCR's power and insert the appropriate cassettes in the camcorder and the VCR.
4. Set "AV/S-VIDEO" to "ON" in the Menu Screen to engage the analogue input mode (☞ pg. 46).
5. Press the Recording Start/Stop Button on the camcorder to engage the Record-Pause mode. "AV. IN" appears on the screen.
6. Engage the VCR's Play mode, then engage the Still Playback mode when you have found a spot just before the edit-in point.
7. Press the Recording Start/Stop Button on the camcorder to engage the Record mode. "AV.IN" appears on the screen. Engage the VCR's Play mode.
8. To stop dubbing, press the Recording Star/Stop Button on the camcorder so that "AV. IN" reappears, then engage the VCR's Stop mode.
9. Repeat steps **6** through **8** for additional editing.
10. Set "AV/S-VIDEO" back to "OFF" in the Menu Screen to disengage the analogue input mode (☞ pg. 46).

NOTES:

- ***Use the provided cables, making sure to connect the ends with a core filter to the camcorder. The core filter reduces interference.***
- ***To use an output cable adapter (commercially available), refer to its instructions.***
- ***It is recommended to use the AC Power Adapter/ Charger as the power supply instead of the battery pack (☞ pg. 7).***
- *Analogue signals can be converted to digital signals with this procedure.*
- *It is also possible to dub from another camcorder.*


Power Switch
To DV OUT
Core filter
DV cable (provided with GR-DVL9800, optional for GR-DVL9700)
To DV IN

Video unit equipped with DV input connector

Digital Dubbing Of Recorded Images/ Sounds Between Tapes

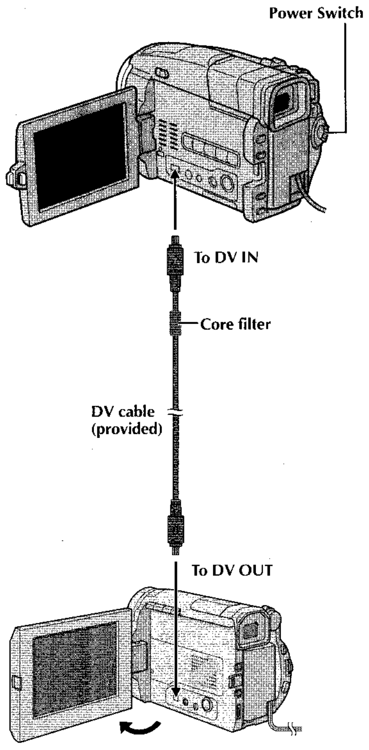
It is also possible to copy recorded scenes from the camcorder onto another video unit equipped with a DV connector. Since a digital signal is sent, there is little if any image or sound deterioration.

[To use this camcorder as a player]

1. Make sure all units are turned off. Connect the camcorder to a video unit equipped with a DV input connector using a DV cable as shown in the illustration.
2. Set the camcorder's Power Switch to " PLAY " while pressing down the Lock Button located on the switch, turn on the video unit's power, and insert the appropriate cassettes in the camcorder and the video unit.
3. Engage the video unit's Record-Pause mode.
4. Engage the camcorder's Play mode to find a spot just before the edit-in point. Once it is reached, press ▶/❚❚ on the camcorder.
5. Press ▶/❚❚ on the camcorder and engage the video unit's Record mode.
6. Engage the video unit's Record-Pause mode and press ▶/❚❚ on the camcorder.
7. Repeat steps **4** through **6** for additional editing, then stop the video unit and camcorder when finished.

NOTES:

- ***It is recommended to use the AC Power Adapter/ Charger as the power supply instead of the battery pack (☞ pg. 7).***
- *If the remote control is used when both the player and recorder are JVC video units, both units will perform the same operation. To prevent this from happening, press the buttons on both units.*
- *For Digital Dubbing, this camcorder can be connected only to one device at a time.*
- *If a blank portion or disturbed image is played back on the player during dubbing, the dubbing may stop so that an unusual image is not dubbed.*
- *Even though the DV cable is connected correctly, sometimes the image may not appear in step **4**. If this occurs, turn off the power and make connections again.*
- *If "Playback Zoom" (☞ pg. 70), "Playback Special Effects" (☞ pg. 71) or "Snapshot" is attempted during playback, only the original playback image recorded on the tape is output from the DV OUT connector.*
- ***When using a DV cable, be sure it has a core filter attached. The core filter reduces interference.***



Video unit equipped with DV output connector

Digital Dubbing Of Recorded Images/ Sounds Between Tapes

[To use this camcorder as a recorder: Only for GR-DVL9800 owners]

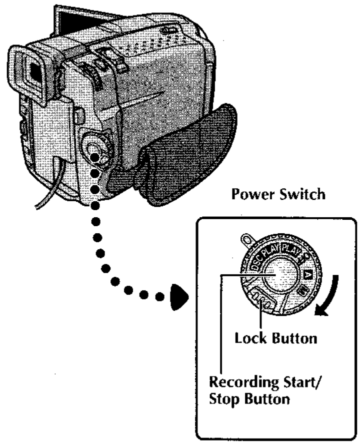
NOTE:

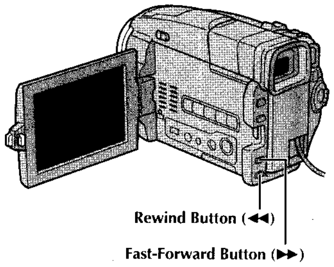
Before the following steps, make sure that "AV/S-VIDEO" is set to "OFF" in the Menu Screen (☞ pg. 46).

1. Make sure all units are turned off. Connect the camcorder to a video unit equipped with a DV output connector using a DV cable as shown in the illustration.
2. Set "REC MODE" to "SP" or "LP" in the Menu Screen depending on your preference (☞ pg. 11).
3. Set this camcorder's Power Switch to " PLAY " while pressing down the Lock Button located on the switch. Turn on the video unit's power and insert the appropriate cassettes in the camcorder and the video unit.
4. Press the Recording Start/Stop Button on the camcorder to engage the Record-Pause mode. "DV. IN" appears on the screen.
5. Engage the video unit's Play mode, then engage the Still Playback mode when you have found a spot just before the edit-in point.
6. Press the Recording Start/Stop Button on the camcorder to engage the Record mode. "DV. IN" appears on the screen. Engage the video unit's Play mode.
7. To stop dubbing, press the Recording Star/Stop Button on the camcorder so that "DV. IN" reappears, then engage the video unit's Stop mode.
8. Repeat steps **5** through **7** for additional editing.

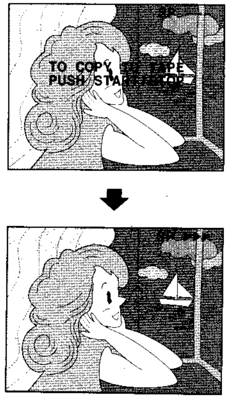
NOTES:

- ***It is recommended to use the AC Power Adapter/ Charger as the power supply instead of the battery pack (☞ pg. 7).***
- *If the remote control is used when both the player and recorder are JVC video units, both units will perform the same operation. To prevent this from happening, press the buttons on both units.*
- *For Digital Dubbing, this camcorder can be connected only to one device at a time.*
- *If a blank portion or disturbed image is played back on the player during dubbing, the dubbing may stop so that an unusual image is not dubbed.*
- *Even though the DV cable is connected correctly, sometimes the image may not appear in step **5**. If this occurs, turn off the power and make connections again.*
- ***When using a DV cable, be sure it has a core filter attached. The core filter reduces interference.***
- *Digital Dubbing is performed in the sound mode recorded on the original tape, regardless of the current "SOUND MODE" setting (☞ pg. 31).*
- *During Digital Dubbing, no signals are output from the video or audio connectors.*





Display



Dubbing Images Stored In A MultiMediaCard To A Tape

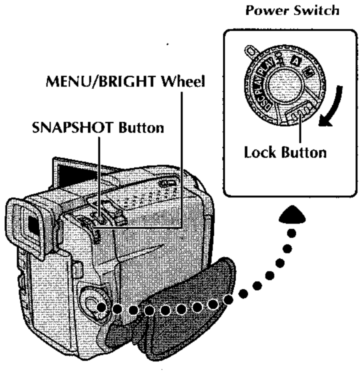
Images can be dubbed from a MultiMediaCard to a tape.

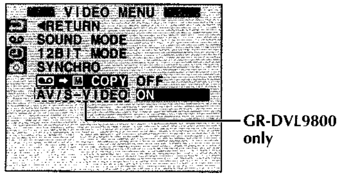
1. Load a MultiMediaCard (☞ pg. 12) and cassette (☞ pg. 10).
2. Set the Power Switch to " PLAY " while pressing down the Lock Button located on the switch. Open the LCD monitor fully or pull out the viewfinder fully.
3. To locate the point where you wish to dub a still image, play back the tape. Stop playback at the desired point.
4. Set the Power Switch to " DSC PLAY " while pressing down the Lock Button located on the switch. To select a still image to be dubbed, perform Index Playback (☞ pg. 49), Auto Playback (☞ pg. 48) or press ◀◀ or ▶▶ to select the image you wish.
5. To engage Dub-Standby, press the Recording Start/Stop Button. The message "TO COPY TO TAPE PUSH START/STOP" appears.
6. While the message is being displayed, press the Recording Start/Stop Button. The selected still image is recorded on the tape for approx. 6 seconds.
   - The "SP" or "LP" and tape running indicators disappear when dubbing is complete.

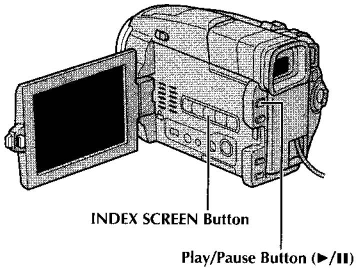
LYT0499-001A

NOTES:

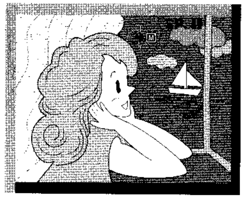
- *If the Recording Start/Stop Button is pressed in step **5** when the tape's erase protection tab is set to "SAVE", the message "COPYING FAILED" is displayed.*
- *The XGA image is dubbed onto the tape at 720 x 640 pixels.*
- *You can superimpose a print frame over the selected still image to be dubbed (☞ pg. 52) and dub it to a tape. After step **4**, superimpose a print frame over the still image and go to step **5**.*




VIDEO MENU
◀RETURN
SOUND MODE
12BIT MODE
SYNCHRO
▣ ➜ M COPY OFF
AV/S-VIDEO ON



Display



Dubbing Images Recorded On A Tape To A MultiMediaCard

Images can be dubbed from a tape to a MultiMediaCard.

1. Load a MultiMediaCard (☞ pg. 12) and cassette (☞ pg. 10).
2. Set the Power Switch to " PLAY " while pressing down the Lock Button. Open the LCD monitor fully or pull out the viewfinder fully.
3. Press **MENU/BRIGHT**. The Menu Screen appears. Rotate it to select " ▣ " and press it. "VIDEO MENU" appears.
4. Rotate **MENU/BRIGHT** to select " ▣ ➜ M COPY" and press it. The Sub Menu appears. Rotate it to select "ON" and press it. Selection is complete.
5. Rotate **MENU/BRIGHT** to select "◀RETURN" and press it twice. The normal playback screen resumes.
6. To select a video image to be dubbed, start playback by pressing ▶/II. At the moment you find the image you wish to dub, press it again to engage Still Playback.

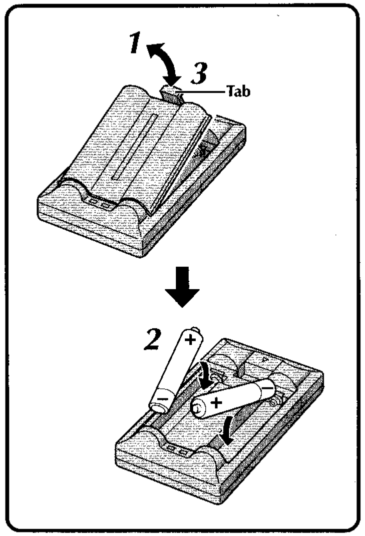
   OR

   If you want to dub a snapshot recorded on the tape to the MultiMediaCard, press **INDEX SCREEN** to find the snapshot. The tape fast-forwards and pauses at the snapshot. Press it repeatedly until the desired snapshots are found.
7. To start dubbing, press **SNAPSHOT**. The selected image is stored in the MultiMediaCard.
   - " ➜ " blinks during dubbing.

NOTES:

- *If **SNAPSHOT** is pressed in step **7** when a MultiMediaCard is not loaded, the message "COPYING FAILED" is displayed.*
- *If an image recorded on the tape using the WIDE mode (☞ pg. 32) is dubbed to a MultiMediaCard, the WIDE mode identifying signal is not dubbed with it.*
- *To use Playback Special Effects with a video image you wish to dub, perform up to step 7 using the RM-V716U remote control (provided) (☞ pg. 71).*
- *Images are dubbed in VGA file size.*

USING THE REMOTE CONTROL UNIT

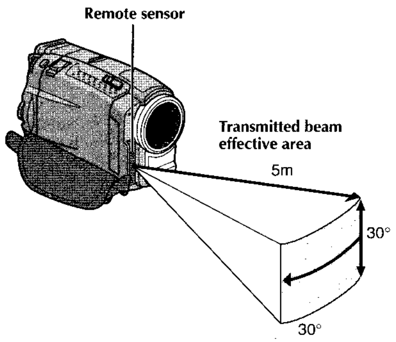


The Full-Function Remote Control Unit can operate this camcorder from a distance as well as the basic operations (Playback, Stop, Pause, Fast-Forward and Rewind) of your VCR. It also makes additional playback functions possible.

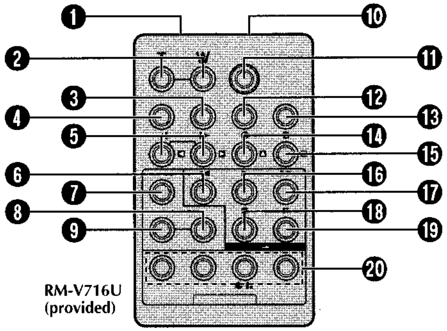
Installing The Batteries

The remote control uses two "R03 (AAA)" size batteries. See "General Battery Precautions" (☞ pg. 93).

1. Remove the battery compartment cover while pushing up the tab as illustrated.
2. Insert two "R03 (AAA)" size batteries in the correct direction.
3. Re-attach the battery compartment cover.



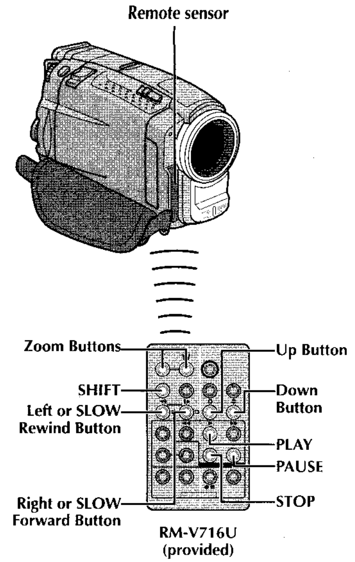
When using the remote control, be sure to point it at the remote sensor. The illustration shows the approximate transmitted beam effective area for indoor use.
The transmitted beam may not be effective or may cause incorrect operation outdoors or when the remote sensor is directly exposed to sunlight or powerful lighting.



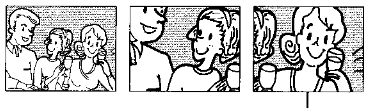
RM-V716U
(provided)

Buttons	Functions	
	With the camcorder's Power Switch set to the camera position ("A" or "M").	**With the camcorder's Power Switch set to "PLAY" or "DSC PLAY".**
❶ **Infrared beam transmitting window**	Transmits the beam signal.	
❷ **Zoom (T/W) Buttons**	Zoom in/out (☞ pg. 22)	Zoom in/out (☞ pg. 70)
❸ **DISPLAY Button**	—	☞ pg. 59, 62, 73
❹ **SHIFT Button**	—	☞ pg. 70, 72
❺ **SLOW Rewind/Forward Buttons Left/Right Buttons**	— —	☞ pg. 70 ☞ pg. 70
❻ **REW Button**	—	Rewind/Reverse Shuttle Search on a tape (☞ pg. 46)
❼ **FADE/WIPE Button**	—	☞ pg. 74
❽ **EFFECT ON/OFF Button**	—	☞ pg. 71
❾ **EFFECT Button**	—	☞ pg. 71
❿ **PAUSE IN Connector**	—	☞ pg. 73
⓫ **START/STOP Button**	Functions the same as the Recording Start/Stop Button on the camcorder.	
⓬ **MBR SET Button**	—	☞ pg. 72
⓭ **SNAPSHOT Button**	Functions the same as **SNAPSHOT** on the camcorder.	
⓮ **Up Button INSERT Button***	— —	☞ pg. 70 —
⓯ **Down Button A. DUB Button**	— —	☞ pg. 70 ☞ pg. 78
⓰ **PLAY Button**	—	Starts Playback of a tape (☞ pg. 46)
⓱ **FF Button**	—	Forward/Forward Shuttle Search on a tape (☞ pg. 46)
⓲ **STOP Button**	—	Stops the tape (☞ pg. 46)
⓳ **PAUSE Button**	—	Pauses the tape (☞ pg. 70)
⓴ **R.A.EDIT Buttons**	—	☞ pg. 72 – 77

* This function is unavailable with this camcorder.



RM-V716U
(provided)



To move image, press ▶ (Right) while keeping SHIFT held down.

FEATURE: Slow-Motion Playback

PURPOSE:

To allow slow-speed search in either direction.

OPERATION:

1) To change from normal to Slow-Motion Playback, press **SLOW** (◀I or I▶) more than approx. 2 seconds. After approx. 1 minute in Slow Rewind or approx. 2 minutes in Slow Forward, normal playback resumes.

■ To stop Slow-Motion Playback, press **PLAY** (▶).

NOTES:

- *You can also engage Slow-Motion Playback from Still Playback by pressing **SLOW** more than approx. 2 seconds.*
- *During Slow-Motion Playback, due to digital image processing, the picture may take on a mosaic effect.*
- *After **SLOW** (◀I or I▶) is pressed and held, the still image may be displayed for a few seconds, followed by a blue screen for a few seconds. This is not a malfunction.*
- *There may be a small margin between the slow-motion playback start point you chose and the actual start point for Slow-Motion Playback.*
- *During Slow-Motion Playback, there will be disturbances in video and the picture may seem unstable, especially with steady images. This is not a malfunction.*
- *During Slow-Motion Playback, press **PAUSE** (**II**) to pause playback.*

FEATURE: Frame-By-Frame Playback

PURPOSE:

To allow frame-by-frame search.

OPERATION:

1) To change from normal to Frame-By-Frame Playback, press **SLOW** (I▶) repeatedly for forward or **SLOW** (◀I) repeatedly for reverse. Each time it is pressed, the frame is played back.

NOTE:

*You can also engage Frame-By-Frame Playback from Still Playback by pressing **SLOW** (◀I or I▶) repeatedly.*

FEATURE: Playback Zoom

PURPOSE:

To magnify the recorded image up to 10X at any time during playback.

OPERATION:

1) Press **PLAY** (▶) to find the scene of interest.

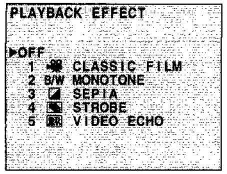
2) Press the Zoom Buttons (**T/W**) on the remote control. Make sure the remote control is pointed at the camcorder's remote sensor. Pressing **T** zooms in.

3) You can move the image on screen around to find a particular portion of the picture. While holding down **SHIFT**, press ◀ (**Left**), ▶ (**Right**), ▲ (**Up**) and ▼ (**Down**).

■ To end zoom, press and hold **W** until magnification returns to normal. Or, press **STOP** (■) and then press **PLAY** (▶).

NOTES:

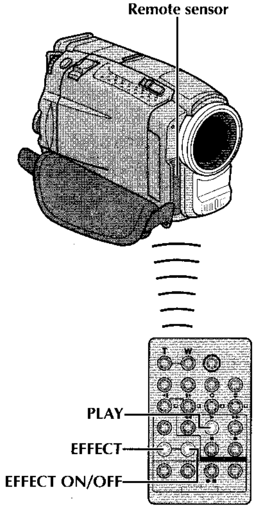
- *Zoom can also be used during slow-motion and still playback.*
- *Due to digital image processing, the quality of the image may suffer.*
- *Playback Zoom cannot be used on images that were recorded with the Power Switch set to "PS".*



PLAYBACK EFFECT

▶OFF
1 CLASSIC FILM
2 B/W MONOTONE
3 SEPIA
4 STROBE
5 VIDEO ECHO

PLAYBACK EFFECT Select Menu



RM-V716U
(provided)

FEATURE: Playback Special Effects

PURPOSE:

To allow you to add creative effects to the playback image.

OPERATION:

1) To start playback, press **PLAY** (▶).

2) Point the remote control at the camcorder's remote sensor and press **EFFECT**. The PLAYBACK EFFECT Select Menu appears.

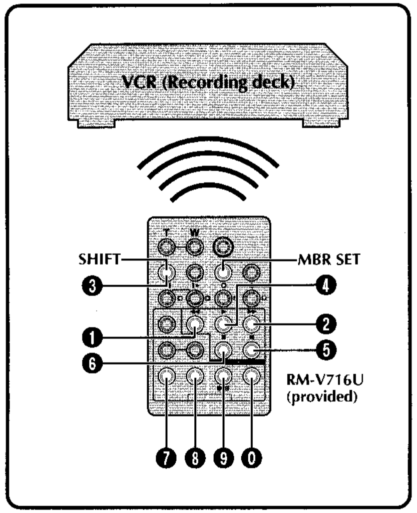
3) Move the highlight bar to the desired effect by pressing **EFFECT**. The selected function is activated and after 2 seconds the menu disappears.

■ To deactivate the selected effect, press **EFFECT ON/OFF** on the remote control. Pressing it again re-activates the selected effect.

■ To change the selected effect, repeat from step **2** above.

NOTES:

- *When some Playback Special Effects are used, the Multi-Analyser 4 and Multi-Analyser 9 Snapshot modes (☞ pg. 19) are not available.*
- *The effects that can be used during playback are Classic Film, Monotone, Sepia, Strobe and Video Echo. The effects work the same in playback as they did in recording. Refer to page 41 for more information.*



VCR CODE LIST

VCR BRAND NAME	BUTTONS (A) (B)
AKAI	❻ ❷ ❻ ❹ ❼ ❼
BLAUPUNKT	❶ ❸
FERGUSON	❾ ❼ ❾ ❽ ❸ ❷
GRUNDIG	❶ ❹ ❸ ❹
HITACHI	❻ ❻ ❻ ❸
JVC A B C	❾ ❶ ❾ ❻ ❾ ❸
MITSUBISHI	❻ ❼ ❻ ❽
NEC	❸ ❼ ❸ ❽
PANASONIC	❶ ❸ ❶ ❼ ❶ ❶ ❾ ❹ ❶ ❽
PHILIPS	❶ ❾ ❾ ❺ ❶ ❶ ❾ ❹ ❾ ❶ ❾ ❻ ❶ ❷ ❸ ❸ ❼ ❷
SANYO	❸ ❻ ❸ ❺
SELECO, REX	❾ ❶ ❾ ❻
SHARP	❶ ❺ ❶ ⓿
SONY	❻ ❺ ❻ ⓿ ❸ ❾ ❸ ❶
THOMSON, TELEFUNKEN, SABA, NORDMENDE	❾ ❶ ❾ ❻ ❾ ❼ ❸ ❷
TOSHIBA	❻ ❾ ❻ ❶

Random Assemble Editing [R.A.Edit]

Create edited videos easily using your camcorder as the source player. You can select up to 8 "cuts" for automatic editing, in any order you like. R.A.Edit is more easily performed when the RM-V716U MBR (Multi-Brand Remote) is set to operate with your brand of VCR (see VCR CODE LIST), but can also be performed by operating the VCR manually.
Before operation, make sure the batteries are installed in the remote control RM-V716U (☞ pg. 68).

SET REMOTE/VCR CODE

1 Turn off the power to the VCR and point the remote towards the VCR's infrared sensor. Then, referring to the VCR CODE LIST, press and hold **MBR SET**, and press button (A) and then (B).
The code is automatically set once you release **MBR SET**, and the VCR's power comes on.

2 Make sure the VCR's power is on. Then, while holding **SHIFT**, press the button on the remote for the desired function. The functions the remote can control are PLAY, STOP, PAUSE, FF, REW and VCR REC STBY (you do not need to press **SHIFT** for this one).

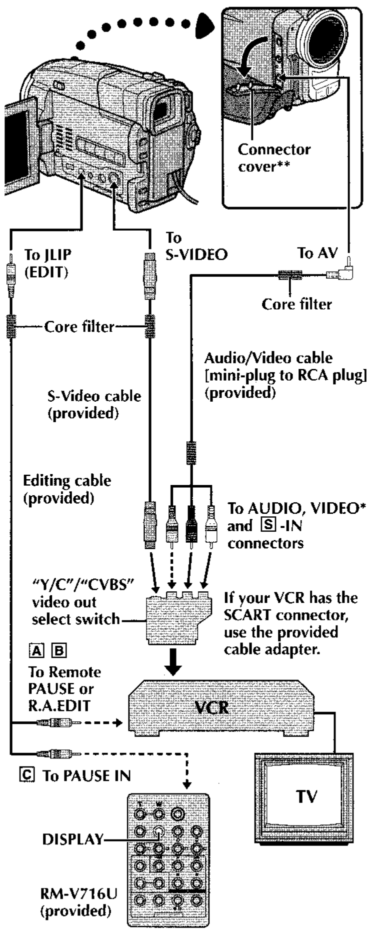
You are now ready to try Random Assemble Editing.

IMPORTANT

Although the MBR is compatible with JVC VCRs and those of many other makers, it may not work with yours or may offer limited functions.

NOTES:

- *If the VCR's power does not come on in step **1**, try another code from the VCR CODE LIST.*
- *Some brands of VCR do not come on automatically. In this case, turn the power on manually and try step **2**.*
- *If the remote control is not able to control the VCR, use the controls on the VCR.*
- *When the remote control's batteries run out, the VCR brand you have set will be erased.*
  In that case, replace the old battery with a new one to reset the VCR brand.


Connector cover**
To JLIP (EDIT)
To S-VIDEO
To AV
Core filter
Core filter
Audio/Video cable [mini-plug to RCA plug] (provided)
S-Video cable (provided)
Editing cable (provided)
To AUDIO, VIDEO* and 🅂-IN connectors
"Y/C"/"CVBS" video out select switch
If your VCR has the SCART connector, use the provided cable adapter.
🄰 🄱 To Remote PAUSE or R.A.EDIT
VCR
🄲 To PAUSE IN
TV
DISPLAY
RM-V716U (provided)

* Connect when an S-Video cable is not used.
** When connecting cables, open this cover.

ATTENTION FOR EDITING CABLE

- Be careful not to mistake it for the JLIP cable (☞ pg. 4).
- Make sure you connect the end with the core filter (plug which has 3 rings around the pin) to the camcorder.

MAKE CONNECTIONS

Also refer to pg. 58 and 59.

1 **🄰 A JVC VCR equipped with a remote pause connector . . .**
... connect the editing cable to the Remote PAUSE connector.

🄱 A JVC VCR not equipped with a remote pause connector but equipped with an R.A. EDIT connector . . .
... connect the editing cable to the R.A.EDIT connector.

🄲 A VCR other than above . . .
... connect the editing cable to the RM-V716U's PAUSE IN connector.

2 Insert a recorded tape into the camcorder and set the Power Switch to " PLAY " while pressing down the Lock Button located on the switch.

3 Turn the VCR power on, insert a recordable tape and engage the AUX mode (refer to the VCR's instructions).

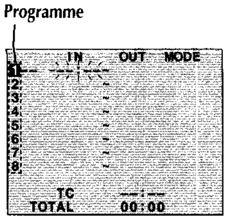
NOTES:

- *Before Random Assemble Editing, make sure the indications do not appear on the TV monitor. If they do, they will be recorded onto the new tape.*

To choose whether or not the following displays appear on the connected TV . . .

- Date/Time
  .... set "DATE/TIME" to "AUTO", "ON" or "OFF" in the Menu Screen (☞ pg. 46).
- Time Code
  .... set "TIME CODE" to "ON" or "OFF" in the Menu Screen (☞ pg. 46).
- Playback Sound Mode, Tape Speed And Tape Running Displays
  .... set "ON SCREEN" to "LCD" or "SIMPLE" in the Menu Screen (☞ pg. 46). Or, press **DISPLAY** on the RM-V716U remote control.
- *For GR-DVL9800 owners: Make sure to set "AV/S-VIDEO" to "OFF" in the Menu Screen (☞ pg. 46).*
- ***Use the provided cables, making sure to connect the ends with a core filter to the camcorder. The core filter reduces interference.***
- *Set the video out select switch of the cable adapter as required:*
  Y/C : When connecting to a TV or VCR which accepts Y/C signals and uses an S-Video cable.
  CVBS : When connecting to a TV or VCR which does not accept Y/C signals and uses an audio/video cable.
- *When editing on a VCR equipped with a DV input connector, an optional DV cable can be connected instead of an S-Video cable and audio/video cable.*

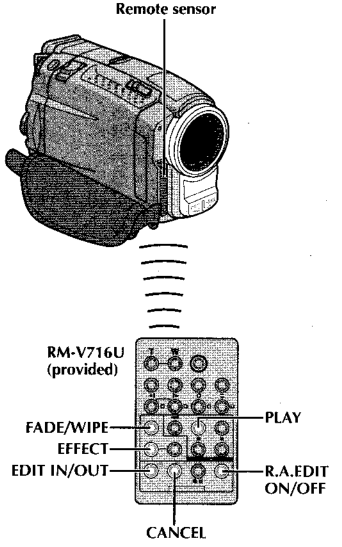
CONTINUED ON NEXT PAGE



```
      IN      OUT   MODE
1  --:--~
2        ~
3        ~
4        ~
5        ~
6        ~
7        ~
8        ~

     TC        --:--
  TOTAL        00:00
```

Random Assemble Editing Menu



SELECT SCENES

4 Point the remote control at the camcorder's remote sensor. Press **PLAY** (▶) and then press **R.A.EDIT ON/OFF** on the remote control.
The Random Assemble Editing Menu appears.

5 If using a Fade/Wipe at the beginning of the scene, press **FADE/WIPE** on the remote control.
- Cycle through the effects by pressing repeatedly, and stop when the one you want is displayed.
- You cannot use a Picture Wipe/Dissolve at the beginning of Programme 1.

6 At the beginning of the scene, press **EDIT IN/OUT** on the remote control. The Edit-In position appears in the Random Assemble Editing Menu.

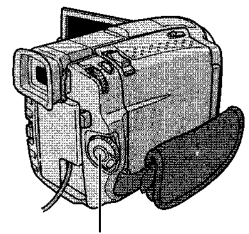
7 At the end of the scene, press **EDIT IN/OUT**. The Edit-Out position appears in the Random Assemble Editing Menu.

8 If using a Fade/Wipe at the end of the scene, press **FADE/WIPE**.
- Cycle through the effects by pressing repeatedly, and stop when the one you want is displayed.
- If you select a Fade/Wipe effect for an Edit-Out point, the effect is automatically applied to the following Edit-In point.
- You cannot use a Picture Wipe/Dissolve at the end of the last scene.
- When you use Fade/Wipe effects, that time is included in the total time (this does not apply to Picture Wipe/Dissolve).

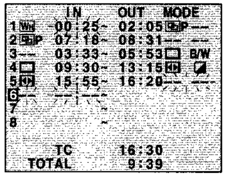
9 If using Playback Special Effects, press **EFFECT** (☞ pg. 71).

10 Repeat steps **6** through **9** to register additional scenes.
- To change previously registered points, press **CANCEL** on the remote control. The registered points disappear, one at a time, from the most recently registered point.
- If you are not using Fade/Wipe or Programme AE with special effects, repeat steps **6** and **7** only.

NOTES:
- *When choosing a scene, set Edit-In and Edit-Out points so that there is a relatively large difference between them.*
- *If the search time for an in-point exceeds 5 minutes, the recording deck's Record-Standby mode will be cancelled and editing will not take place.*
- *If there are blank portions before or after the Edit-In and Edit-Out points, a blue screen may be included in the edited version.*
- *Since time codes register time only as accurately as seconds, the time code total time may not match the total programme time exactly.*
- *Turning off the camcorder's power erases all registered Edit-In and Edit-Out points.*
- *If you select Sepia or Monotone mode from Programme AE with special effects, you cannot use the Dissolve or Black & White Fader. In this case the Dissolve or Black & White indicator begins blinking. Once the next Edit-In point is registered, the effect is turned off. To combine these effects, use Sepia or Monotone during recording, then use the Dissolve or Black & White Fader during Random Assemble Editing.*
- *It is not possible to use Fade/Wipe effects and Programme AE with special effects during Random Assemble Editing using a DV cable.*



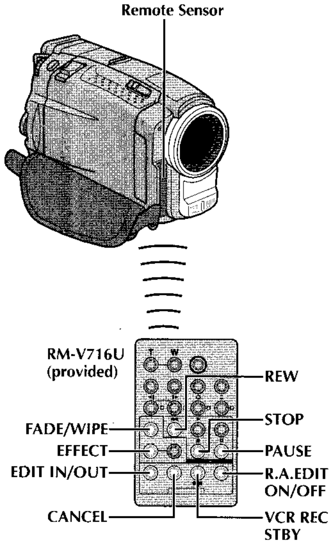
Recording Start/Stop Button



```
      IN      OUT    MODE
1    00:25~  02:05   P--
2 P  07:18~  08:31 --  --
3--  03:33~  05:53     B/W
4    09:30~  13:15
5    15:55~  16:20-- ---
6--  --:--~
7        ~
8        ~

     TC       16:30
  TOTAL        9:39
```

Random Assemble Editing Menu



AUTOMATIC EDITING TO VCR

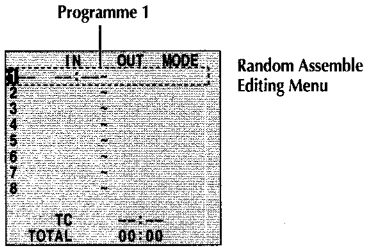
11 Rewind the tape in the camcorder to the beginning of the scene you want to edit and press **PAUSE** (❚❚).

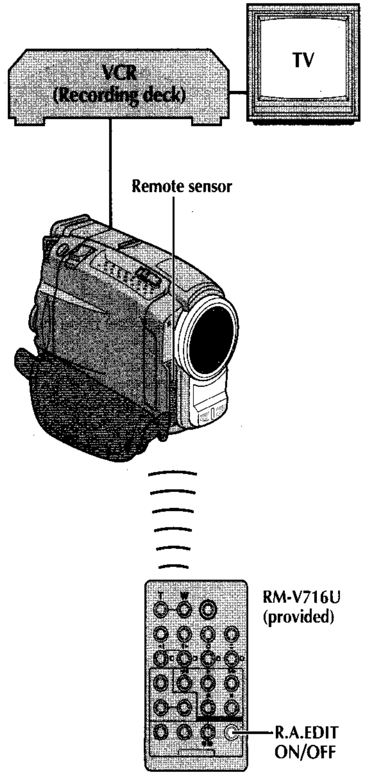
12 Point the remote control towards the VCR's remote sensor and press **VCR REC STBY** (●❚❚), or manually engage the VCR's Record-Pause mode.

13 Press the Recording Start/Stop Button on the camcorder. Editing proceeds as programmed, right through to the end of the last registered scene.
- Pressing **START/STOP** on the remote control does not start editing.
- When dubbing is complete, the camcorder enters the Pause mode, and the VCR enters its Record-Pause mode.
- If you do not register an Edit-Out point, the tape will be dubbed all the way to the end automatically.
- If you operate the camcorder during automatic editing, the VCR will enter its Record-Pause mode and automatic editing will stop.

14 Engage the Stop modes for the camcorder and the VCR.
To make the R.A.Edit counter display disappear, press **R.A.EDIT ON/OFF** on the remote control.

NOTES:
- *Pressing **R.A.EDIT ON/OFF** on the remote control clears all settings registered during Random Assemble Editing.*
- *When the editing cable is connected to the remote control's Pause In connector during dubbing, make sure the remote control is pointed at the VCR's sensor, and the path between the two is unobstructed.*
- *Random Assemble Editing may not function properly when using a tape including several duplicated time codes (☞ pg. 23).*


Programme 1
IN
OUT
MODE
1
2
3
4
5
6
7
8
TC
--:--
TOTAL
00:00
Random Assemble Editing Menu


VCR (Recording deck)
TV
Remote sensor
RM-V716U (provided)
R.A.EDIT ON/OFF

For More Accurate Editing

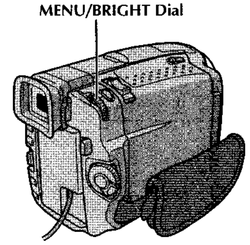
Some VCRs make the transition from Record-Pause to Record mode faster than others. Even if you begin editing for the camcorder and the VCR at exactly the same time, you may lose scenes you wanted, or find that you have recorded scenes you did not want. For a cleanly edited tape, confirm and adjust the timing of the camcorder against your VCR.

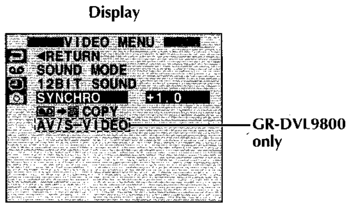
DIAGNOSING VCR/CAMCORDER TIMING

1. Play back the tape in the camcorder, then point the remote control at the camcorder's remote sensor and press **R.A.EDIT ON/OFF**.
   The Random Assemble Editing Menu appears.

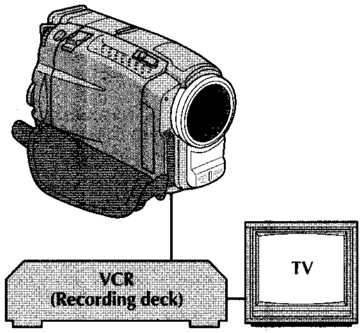
2. Perform Random Assemble Editing on Programme 1 only. In order to check VCR and camcorder timing, select the beginning of a scene transition as your Edit-In point.

3. Play back the dubbed scene.
   - If any images from the scene prior to the transition you chose for your Edit-In point were recorded, that means your VCR moves too quickly from Record-Pause to Record mode.
   - If the scene you tried to dub starts in progress, the VCR is slow to start recording.


MENU/BRIGHT Dial


Display
VIDEO MENU
◄RETURN
SOUND MODE
12BIT SOUND
COPY
AV/S-VIDEO
GR-DVL9800 only

SYNCHRO +1.0


VCR (Recording deck)
TV

ADJUSTMENT OF VCR/CAMCORDER TIMING

4. Point the remote control at the camcorder's remote sensor and press **R.A.EDIT ON/OFF** to make the Random Assemble Editing menu disappear, then press **MENU/BRIGHT**. The Menu Screen appears.

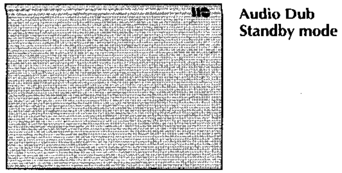
5. Rotate **MENU/BRIGHT** to select " 📼 " and press it. "VIDEO MENU" appears. Then, rotate it to "SYNCHRO" and press it. The value for "SYNCHRO" is highlighted.

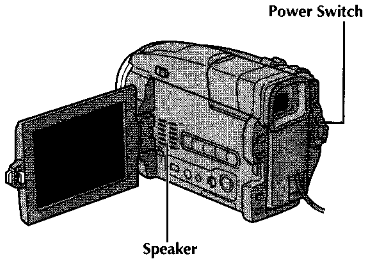
6. Based on the diagnostics performed (☞ pg. 76), you can now advance the VCR's record timing by rotating **MENU/BRIGHT** towards "+". You can also delay the VCR's record timing by rotating **MENU/BRIGHT** towards "–". The adjustment range is from –1.3 to +1.3 seconds, in 0.1-second increments.
   Press **MENU/BRIGHT** to finish the setting.

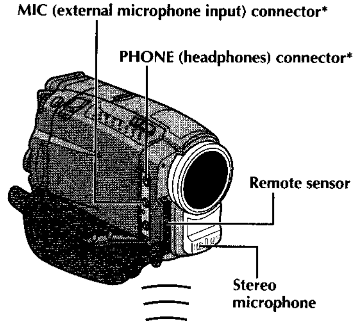
7. Rotate **MENU/BRIGHT** to select "◄RETURN" and press it twice.
   Now perform Random Assemble Editing beginning with step **4** on page 74.

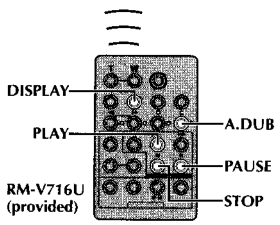
NOTES:
- *Before performing actual Random Assemble Editing, do a few Random Assemble Editing trial runs to check whether the value you have input is appropriate or not, and make adjustments accordingly.*
- *Depending on the recorder, there may be situations where the timing difference cannot be fully corrected.*

Display






MIC (external microphone input) connector*
PHONE (headphones) connector*
Remote sensor
Stereo microphone



* Located beneath the cover.

Audio Dubbing

The audio track can be customized only when recorded in the 12-bit mode (☞ pg. 31).

NOTES:

- *Audio Dubbing is not possible on a tape recorded in 16-bit audio, on a tape recorded in the LP mode or on a blank portion of a tape.*
- *To perform Audio Dubbing while watching on the television, make connections (☞ pg. 58, 59).*

1 Play back the tape to locate the point where editing will start, then press **PAUSE (❚❚)**.

2 While holding **A.DUB (⊜)** on the remote control, press **PAUSE (❚❚)**. "**❚❚⊜**" appears.

3 Press **PLAY (▶)** , then begin "narrating".
Speak into the microphone.
- To pause dubbing, press **PAUSE (❚❚)**.

4 To end Audio Dubbing, press **PAUSE (❚❚)**, then **STOP (■)**.

To hear the dubbed sound during playback . . .
.... set "12BIT MODE" to "SOUND 2" or "MIX" in the Menu Screen (☞ pg. 46, 47).

NOTES:

- *Audio dubbing is also possible using an optional microphone connected to the MIC connector.*
- *Sound is not heard from the speaker during Audio Dubbing. To hear sound, connect optional headphones to the PHONE connector.*
- ***When using an optional microphone or headphones, be sure to attach the core filter to reduce interference (☞ pg. 5).***
- *While an optional microphone is connected, the built-in microphone is disabled.*
- *When editing onto a tape that was recorded at 12-bit, the old and new soundtracks are recorded separately.*
- *If you dub onto a blank space on the tape, the sound may be disrupted. Make sure you only edit recorded areas.*
- *If feedback or howling occurs during TV playback, move the camcorder's microphone away from the TV, or turn down the TV's volume.*
- *If you change from 12-bit to 16-bit in mid-recording and then use the tape for Audio Dubbing, it is not effective from the point where 16-bit recording began.*
- *During Audio Dubbing, when the tape moves to scenes recorded in the LP mode, scenes recorded in 16-bit audio or a blank portion, Audio Dubbing stops and "ERROR! REFER MANUAL" appears.*
- *For GR-DVL9800 owners: To perform Audio Dubbing with a video unit connected to the camcorder's AV connector, first set "AV/S-VIDEO" to "ON" in the Menu Screen (☞ pg. 46). You can hear sound from the video unit using optional headphones.*

TROUBLESHOOTING

If, after following the steps in the chart below, the problem still exists, please consult your nearest JVC dealer.

The camcorder is a microcomputer-controlled device. External noise and interference (from a TV, a radio, etc.) might prevent it from functioning properly. In such cases, first disconnect its power supply unit (battery pack, AC Power Adapter/Battery Charger, etc.) and wait a few minutes; and then re-connect it and proceed as usual from the beginning.

SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
1. No power is supplied.	*1.* • The power is not connected properly. • The battery is dead. • The LCD monitor is not open fully or the viewfinder is not pulled out when recording.	*1.* • Connect the AC Power Adapter/Charger securely (☞ pg. 7). • Replace the dead battery with a fully charged one (☞ pg. 6, 7). • Open the LCD monitor fully or pull out the viewfinder.
2. "SET DATE/TIME!" appears.	*2.* • The built-in clock's rechargeable lithium battery is discharged. • The previously set date/time is erased.	*2.* • Connect the camcorder to an AC outlet using the AC Power Adapter/Charger for over 24 hours to charge the clock's lithium battery (☞ pg. 9).
3. Recording cannot be performed.	*3.* • The tape's erase protection tab is set to "SAVE". • The Power Switch is set to " PLAY ", " DSC PLAY " or "OFF". • "TAPE END" appears. • The cassette holder cover is open.	*3.* • Set the tape's erase protection tab to "REC" (☞ pg. 10). • Set the Power Switch to " A " or " M " (☞ pg. 14). • Replace with new cassette (☞ pg. 10). • Close the cassette holder cover.
4. There is no picture.	*4.* • The camcorder is not getting power, or some other malfunction exists.	*4.* • Turn the camcorder's power off and on again (☞ pg. 16).
5. Some functions are not available using **MENU/ BRIGHT**.	*5.* • The Power Switch is set to " A ".	*5.* • Set the Power Switch to " M " (☞ pg. 14).
6. The focus does not adjust automatically.	*6.* • Focus is set to the Manual mode. • The recording was done in a dark place, or the contrast was low. • The lens is dirty or covered with condensation.	*6.* • Set Focus to the Auto mode (☞ pg. 27). • Clean the lens and check the focus again (☞ pg. 92).
7. The cassette will not load properly.	*7.* • The cassette is in the wrong position. • The battery's charge is low.	*7.* • Set it in the right position (☞ pg. 10). • Install a fully charged battery (☞ pg. 6, 7).
8. The MultiMediaCard will not load properly.	*8.* • The MultiMediaCard is in the wrong position.	*8.* • Set it in the right position (☞ pg. 12).
9. In the 5-Second mode, recording ends before 5 seconds have elapsed.	*9.* • The 5-Second mode is set to "ANIM." in the Menu Screen.	*9.* • Select "5S" in the Menu Screen (☞ pg. 37).

CONTINUED ON NEXT PAGE

SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
10. Snapshot mode cannot be used.	***10.*** • The Squeeze mode is selected. • High Speed Recording is being attempted.	***10.*** • Disengage the Squeeze mode (☞ pg. 32). • Do not use High Speed Recording (☞ pg. 28).
11. The colour of Snapshot looks strange.	***11.*** • The light source or the subject does not include white. Or there are various different light sources behind the subject.	***11.*** • Set "FLASH" to "ON" in the Menu Screen. Or find a white subject and compose your shot so that it also appears in the frame (☞ pg. 18, 20, 34).
12. Although Snapshot is attempted, flash does not take place.	***12.*** • The subject is too bright with the flash set to "AUTO" or "AUTO ◉". • If ϟ blinks, the flash is being charged. • Multi-Analyser 4 or Multi-Analyser 9 is selected. • The camcorder is in the Record mode. • In the Menu Screen, "GAIN UP" is set to "OFF" or "P.AE/EFFECT" is set to "TWILIGHT". • The flash is pushed down.	***12.*** • Set "FLASH" to "ON" in the Menu Screen (☞ pg. 34). • It can take up to 10 seconds to charge the flash. • Disengage Multi-Analyser 4 or Multi-Analyser 9 (☞ pg. 19). • Set the camcorder in the Record-Standby mode (☞ pg. 34). • Set "GAIN UP" to "AUTO ☼" or "AGC" (☞ pg. 31) or disengage the "TWILIGHT" mode (☞ pg. 41). • Raise the flash using the **FLASH OPEN** Switch (☞ pg. 34).
13. Although a Snapshot is taken with the flash, Red-Eye Reduction does not take place.	***13.*** • The subject does not look straight toward the flash. • The subject does not look at the first flash, which is an important part of Red-Eye Reduction. • The camcorder is too far from the subject. • "FLASH" is not set to "AUTO ◉" in the Menu Screen.	***13.*** • The subject should look straight toward the flash, especially the first flash. If the subject does not see the first flash, it will be difficult for Red-Eye Reduction to take place (☞ pg. 34). • The flash is effective for subjects at a distance of approx. 0.7 m to 2 m from the camcorder (☞ pg. 34). • Set "FLASH" to "AUTO ◉" in the Menu Screen to display the Red-Eye Reduction indicator (☞ pg. 34).
14. The image taken using Snapshot is too dark.	***14.*** • The flash is pushed down. • The flash emission window is covered by fingers, etc.. • The flash brightness is set to produce a darker image (adjustment value: –3). • The camcorder is too far from the subject. • Shooting was performed under backlit conditions.	***14.*** • Raise the flash using the **FLASH OPEN** Switch (☞ pg. 34). • Do not cover the flash emission window. • Adjust the flash brightness to a larger value (☞ pg. 35). • The flash is effective for subjects at a distance of approx. 0.7 m to 2 m (☞ pg. 34). • Press the **BACKLIGHT** Button (☞ pg. 42).
15. The image taken using Snapshot is too bright.	***15.*** • "FLASH" is set to "ON" in the Menu Screen. • The subject is too bright.	***15.*** • Set "FLASH" to any parameter other than "ON" in the Menu Screen (☞ pg. 34). • Push down the flash. • Press the **SPOTLIGHT** Button (☞ pg. 42).
16. Digital Zoom does not work.	***16.*** • 10X optical zoom is selected. • The Shooting Mode Dial is set to "DUAL", "VGA" or "XGA". • "P.AE/EFFECT" is set to "VIDEO ECHO" in the Menu Screen. • "WIDE MODE" is set to "PS WIDE" in the Menu Screen. • Multi-Analyser 4 or Multi-Analyser 9 was attempted during Digital Zoom. • High Speed Recording was attempted. • Picture Wipe or Dissolve are being used in a scene transition.	***16.*** • Set "ZOOM" to "40X" or "200X" in the Menu Screen (☞ pg. 31). • Set the Shooting Mode Dial to "PS" or "VIDEO" (☞ pg. 15, 22). • Disengage the "VIDEO ECHO" mode (☞ pg. 22, 41). • Disengage the "PS WIDE" mode (☞ pg. 32). • Disengage Multi-Analyser 4 or Multi-Analyser 9 (☞ pg. 19). • Release High Speed Recording (☞ pg. 28). • Wait until the Picture Wipe or Dissolve effects are completed (☞ pg. 22, 38).
17. Programme AE with special effects and Fade/Wipe Effects do not work.	***17.*** • The Power Switch is set to "Ⓐ". • Some functions are disabled during High Speed Recording.	***17.*** • Set the Power Switch to "Ⓜ" (☞ pg. 38, 40). • ☞ pg. 28.
18. The Black & White Fader does not work.	***18.*** • The Sepia or Monotone mode is activated.	***18.*** • Turn off Sepia and Monotone (☞ pg. 38, 40).
19. The Dissolve function does not work.	***19.*** • The Sepia, Monotone or Slow Shutter mode of Programme AE with special effects is activated. • "WIDE MODE" is set to "SQUEEZE" or "PS WIDE" in the Menu Screen. • The previously selected mode of Programme AE with special effects was changed after the last selected scene for editing was registered.	***19.*** • Turn off Sepia, Monotone or Slow Shutter before adding Dissolve to a scene transition (☞ pg. 38, 40). • Set "WIDE MODE" to "CINEMA" or "OFF" mode (☞ pg. 32). • Make sure you have selected the mode of Programme AE with special effects you want before starting editing (☞ pg. 38, 40).

CONTINUED ON NEXT PAGE

SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
20. The Picture Wipe and Dissolve functions do not work.	**20.** • The last selected editing scene is ending. • At the end of the last selected scene for editing, the Power Switch was set to "OFF". • The power is off.	**20.** • Select Picture Wipe or Dissolve before beginning recording. The effects are then automatically activated (☞ pg. 38). • Do not turn off the camcorder's power after setting Edit-In and Edit-Out points, as they will all be erased (☞ pg. 38). • The camcorder automatically shuts off after 5 minutes have elapsed in the Record-Standby mode. Make sure you continue operations within 5 minutes after engaging Record-Standby mode (☞ pg. 38).
21. The picture wipe function does not work.	**21.** • The Slow Shutter mode is activated. • "WIDE MODE" is not set to "OFF".	**21.** • Disengage the Slow Shutter mode or set "WIDE MODE" to "OFF" before preparing to use the Picture Wipe (☞ pg. 32, 38, 40).
22. Scene transition does not go as expected.	**22.** • When using "Picture Wipe/ Dissolve" (☞ pg. 38), there is a delay of a fraction of a second between the previous record stop-point and the Dissolve start-point. This is normal, but this slight delay becomes especially noticeable when shooting fast-moving subject or during rapid panning.	**22.** ——
23. The Video Echo mode does not work.	**23.** • The Picture Wipe or Dissolve functions are in use. • "WIDE MODE" is set to "SQUEEZE" or "PS WIDE" in the Menu Screen. • A Fade-In or Fade-Out is in progress.	**23.** • Set "WIDE MODE" to "CINEMA" or "OFF" mode (☞ pg. 32). • Do not try to use the Video Echo mode during a Fade-In or Fade-Out (☞ pg. 38, 40).
24. Even when Slow Shutter is not selected, the image looks like it is activated.	**24.** • When shooting in the dark, the unit becomes highly sensitive to light and the image takes on an effect similar to Slow Shutter.	**24.** • If you want the lighting to look more natural, set GAIN UP to "AGC" or "OFF" in the Menu Screen (☞ pg. 31).
25. There is no strobe when the Classic Film or Strobe mode is activated.	**25.** • The Picture Wipe or Dissolve function is in use.	**25.** • Do not try to use the Classic Film or Strobe mode during a scene transition (☞ pg. 38, 40).
26. White Balance cannot be activated.	**26.** • The Sepia or Monotone mode is activated.	**26.** • Turn off Sepia or Monotone before setting White Balance (☞ pg. 40, 43).

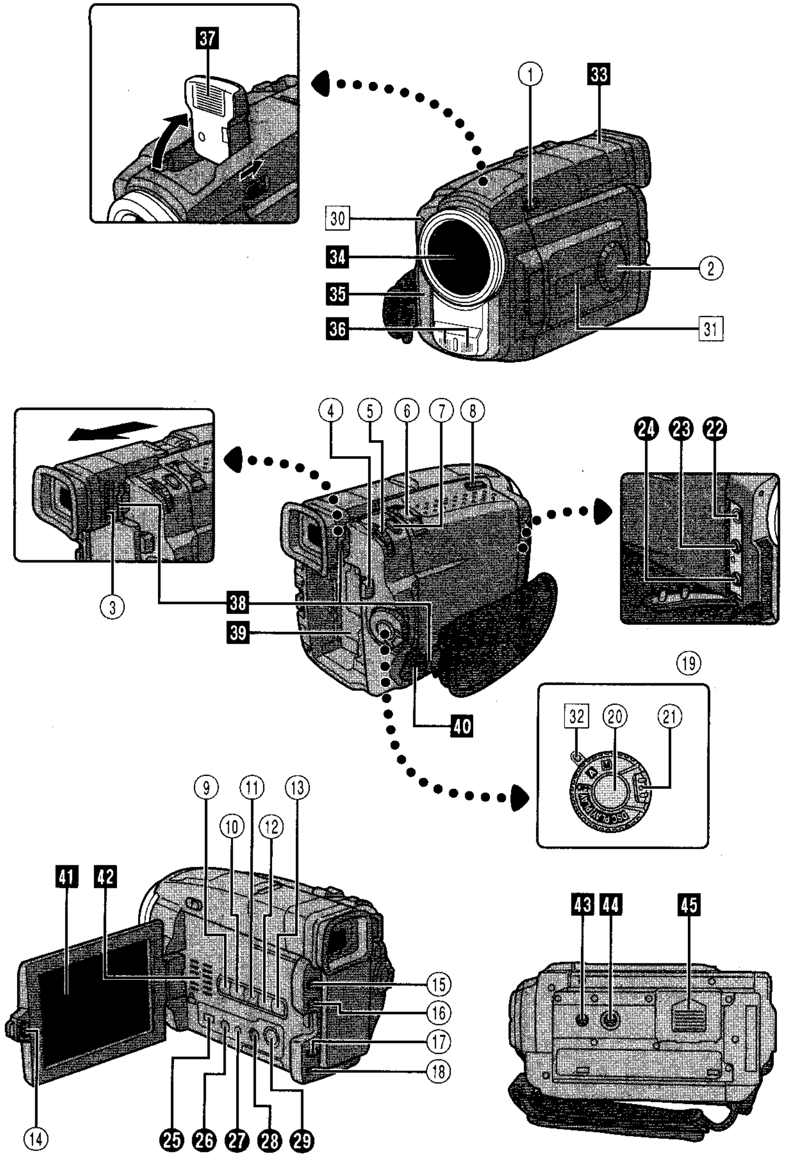
SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
27. When shooting a subject illuminated by bright light, vertical lines appear.	**27.** • This is a result of exceedingly high contrast, and is not a malfunction.	**27.** ——
28. When the screen is under direct sunlight during shooting, the screen becomes red or black for an instant.	**28.** • This is not a malfunction.	**28.** ——
29. During recording, the date/ time does not appear.	**29.** • "DATE/TIME" is set to "OFF" in the Menu Screen. • Interface Shooting is performed.	**29.** • Set "DATE/TIME" to "ON" in the Menu Screen (☞ pg. 33). • During Interface Shooting, the date/time does not appear (☞ pg. 17).
30. Images stored in the MultiMediaCard cannot be deleted.	**30.** • Images stored in the MultiMediaCard are protected.	**30.** • Remove protection from the images stored in the MultiMediaCard and delete them (☞ pg. 50, 51).
31. The indicators and messages do not appear.	**31.** • "ON SCREEN" is set to "SIMPLE" or "TIME CODE" is set to "OFF" in the Menu Screen.	**31.** • Set "ON SCREEN" to "LCD" or "LCD/TV" and set "TIME CODE" to "ON" in the Menu Screen (☞ pg. 33, 46).
32. Images on the LCD monitor appear dark or whitish.	**32.** • In places subject to low temperature, images become dark due to the characteristics of the LCD monitor. When this happens, the displayed colours differ from those that are actually recorded. This is not a defect of the camcorder. • When the LCD monitor's fluorescent light reaches the end of its service life, images on the LCD monitor become dark. Consult your nearest JVC dealer.	**32.** • Adjust the brightness and angle of the LCD monitor (☞ pg. 16, 17).
33. The rear of the LCD monitor is hot.	**33.** • The light used to illuminate the LCD monitor causes it to become hot.	**33.** • Close the LCD monitor to turn it off or set the Power Switch to "OFF", and let the unit cool down.
34. The indicators and the image colour on the LCD monitor are not clear.	**34.** • This may occur when the surface or the edge of the LCD monitor is pressed.	**34.** ——
35. The LCD monitor or viewfinder indications blink.	**35.** • Certain Fade/Wipe effects, certain modes of Programme AE with special effects, "DIS" and other functions that cannot be used together are selected at the same time.	**35.** • Re-read the sections covering Fade/Wipe effects, Programme AE with special effects and "DIS" (☞ pg. 32, 38 – 41).

CONTINUED ON NEXT PAGE

SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
36. Coloured bright spots appear all over the LCD monitor or the viewfinder.	**36.** • The LCD monitor and the viewfinder are made with high-precision technology. However, black spots or bright spots of light (red, green or blue) may appear constantly on the LCD monitor or the viewfinder. These spots are not recorded on the tape. This is not due to any defect of the unit. (Effective dots: more than 99.99 %)	**36.** ———
37. During recording, sound cannot be heard.	**37.** • The optional headphones are not connected to the headphones connector. • The sound volume of the headphones connector was not adjusted appropriately. The sound volume at this point is the same as the level it was adjusted to during playback.	**37.** • Connect the optional headphones to the headphones connector (☞ pg. 86, 87). • Adjust the sound volume during playback (☞ pg. 44).
38. Play, Rewind and Fast-Forward functions do not work.	**38.** • The Power Switch is not set to "PLAY".	**38.** • Set the Power Switch to "PLAY" (☞ pg. 44).
39. A MultiMediaCard cannot be played back.	**39.** • The Power Switch is set to "PLAY", "A" or "M".	**39.** • Set the Power Switch to "DSC PLAY" (☞ pg. 48).
40. The tape is moving, but there is no picture.	**40.** • Your TV has AV input terminals, but is not set to its VIDEO mode. • The cassette holder cover is open.	**40.** • Set the TV to the mode or channel appropriate for video playback (☞ pg. 58, 59). • Close the cassette holder cover (☞ pg. 10).
41. The LCD monitor image is distorted.	**41.** • During playback of the unrecorded portion, High-speed Search and still playback, LCD monitor indications appear distorted. This is not a defect.	**41.** ———
42. Images on the LCD monitor are jittery.	**42.** • The speaker volume is too great.	**42.** • Turn the speaker volume down (☞ pg. 44).
43. For GR-DVL9800 owners: There is no playback picture on the connected TV.	**43.** •Since the analogue input mode is engaged, the camcorder is in the Record-Standby mode.	**43.** • Set "AV/S-VIDEO" to "OFF" in the Menu Screen (☞ pg. 46).
44. Blocks of noise appear during playback, or there is no playback picture and the screen becomes blue.	**44.** ———	**44.** •Clean the video heads with an optional cleaning cassette (☞ pg. 94).

SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
45. The LCD monitor, the viewfinder and the lens have become dirty (ex. fingerprints).	**45.** ———	**45.** • Wipe them gently with soft cloth. Wiping strongly can cause damage (☞ pg. 92).
46. An unusual mark appears.	**46.** ———	**46.** • Check the section of the manual that explains LCD monitor/viewfinder indications (☞ pg. 88 – 91).
47. An error indication (E01 — E06) appears.	**47.** • A malfunction of some kind has occurred. In this case the camcorder's functions become unusable.	**47.** • Remove the power supply (battery pack, etc.) and wait a few minutes for the indication to clear. When it does, you can resume using the camcorder. If the indication remains even though you repeat the above two or three times, please consult your nearest JVC dealer.
48. The charger indicator on the AC Power Adapter/ Charger does not light.	**48.** • The temperature of the battery is extremely high/low. • Charging is difficult in places subject to extremely high/low temperatures.	**48.** • To protect the battery, it is recommended to charge it in places with a temperature of 10°C to 35°C (☞ pg. 93).
49. Picture does not appear on the LCD monitor.	**49.** • The viewfinder is pulled out. • The LCD monitor's brightness setting is too dark.	**49.** • Push the viewfinder back in. • Adjust the brightness of the LCD monitor (☞ pg. 16). • If the monitor is tilted upward 180 degrees, open the monitor fully (☞ pg. 16).
50. When the image is printed from the printer, a black bar appears at the bottom of the screen.	**50.** • This is not a malfunction.	**50.** • By recording with "DIS" activated (☞ pg. 32) this can be avoided.
51. When the camcorder is connected via the DV connector, the camcorder does not operate.	**51.** • The DV cable was plugged/ unplugged with power turned on.	**51.** • Turn the camcorder's power off and on again, then operate it.
52. During transport, the lens cover opens.	**52.** ———	**52.** • Do not subject the camcorder to shock or excessive vibration during transport. • Turn the camcorder on and off. The lens cover closes.

INDEX Controls, Connectors And Indicators



Controls

① Flash Switch [FLASH OPEN] ☞ pg. 34

② Shooting Mode Dial
[PS, VIDEO, DUAL, VGA, XGA] ☞ pg. 15

③ Dioptre Adjustment Control ☞ pg. 8

④ Battery Release Button [BATT. RELEASE] ☞ pg. 7

⑤ • MENU Wheel [+, –, PUSH] ☞ pg. 30
• LCD Monitor BRIGHT
(Brightness) Control [+, –] ☞ pg. 16

⑥ • Power Zoom Lever [T/W] ☞ pg. 22
• Speaker/Headphone Volume Control
[VOL.] ☞ pg. 44

⑦ Snapshot Button
[SNAPSHOT] ☞ pg. 18, 20, 24, 26, 67

⑧ OPEN/EJECT Switch ☞ pg. 10

⑨ SLOW Button ☞ pg. 29, 45

⑩ Snapshot Mode Button [SNAP MODE] ☞ pg. 18

⑪ INDEX SCREEN Button ☞ pg. 19, 49

⑫ PRINT FRAME Button ☞ pg. 52

⑬ PRINT Button
Enables printing using the optional printer equipped with a PRINT DATA connector. Refer to the separate "FOR OWNERS OF AN OPTIONAL PRINTER" instruction sheet.

⑭ Monitor Open Button
[PUSH-OPEN] ☞ pg. 12, 16

⑮ • Play/Pause Button [▶/❚❚] ☞ pg. 44
• High Speed Recording Button
[HIGH SPEED] ☞ pg. 28

⑯ • Stop Button [■] ☞ pg. 44
• FOCUS Button ☞ pg. 27

⑰ • Fast-Forward Button [▶▶] ☞ pg. 44
• SPOTLIGHT Button ☞ pg. 42

⑱ • Rewind Button [◀◀] ☞ pg. 44
• BACKLIGHT Button ☞ pg. 42

⑲ Power Switch
[A, M, PLAY, DSC PLAY, OFF] ☞ pg. 14

⑳ Recording Start/Stop Button ☞ pg. 16

㉑ Lock Button ☞ pg. 14

Connectors

The connectors ㉒ to ㉔ are located beneath a cover.

㉒ Headphone Connector [PHONE] ☞ pg. 78
No sound is output from the speaker when headphones are connected to this connector.

㉓ External Stereo Microphone Input Connector
[MIC] ☞ pg. 78

㉔ Audio/Video Input/Output Connector: GR-DVL9800
Audio/Video Output Connector: GR-DVL9700
[AV] ☞ pg. 58, 59, 62, 63, 73

To connect cables to the following connectors ㉕ to ㉙, open the LCD monitor.

㉕ Digital Video Connector
[DV IN/OUT: GR-DVL9800,
DV OUT: GR-DVL9700]
(i.link*) ☞ pg. 60, 61, 64, 65
* i.Link refers to the IEEE1394-1995 industry specification and extensions thereof. The i logo is used for products compliant with the i.Link standard.

㉖ J Terminal/Edit Connector [JLIP (Joint Level Interface Protocol) (EDIT)] ☞ pg. 73
• Connect the editing cable when performing Random Assemble Editing.
• Connect to a JLIP-compatible camcorder or VCR to control it from the computer using the provided Software.

㉗ PC (DIGITAL STILL) Connector ☞ pg. 60

㉘ PRINTER Connector
Connect to the optional printer equipped with a PRINT DATA connector. Refer to the separate "FOR OWNERS OF AN OPTIONAL PRINTER" instruction sheet.

㉙ S-Video Input/Output Connector: GR-DVL9800
S-Video Output Connector: GR-DVL9700
[S-VIDEO] ☞ pg. 58, 59, 62, 63, 73

Indicators

30 Tally Lamp ☞ pg. 16

31 Shooting Mode Indicator ☞ pg. 31

32 Power Lamp ☞ pg. 16

Other Parts

33 Viewfinder ☞ pg. 8

34 Lens Cover
Opens when the viewfinder is pulled out or the LCD monitor is opened fully.

35 • Remote Sensor ☞ pg. 68
• Camera Sensor
Be careful not to cover this area, a sensor necessary for shooting is built-in here.

36 Stereo Microphone ☞ pg. 78

37 Flash ☞ pg. 34

38 Shoulder Strap Eyelets ☞ pg. 8

39 Battery Pack Mount ☞ pg. 7

40 Grip Strap ☞ pg. 8

41 LCD Monitor ☞ pg. 16, 17

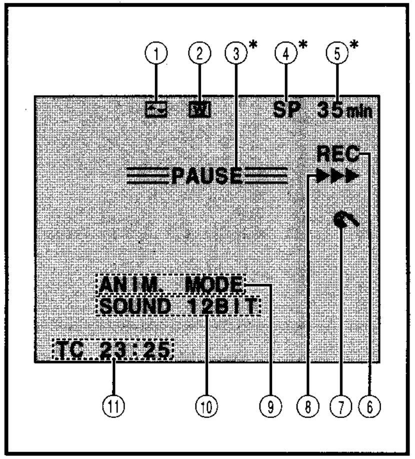
42 Speaker ☞ pg. 44

43 Stud Hole ☞ pg. 8

44 Tripod Mounting Socket ☞ pg. 8

45 MEMORY CARD Cover ☞ pg. 12

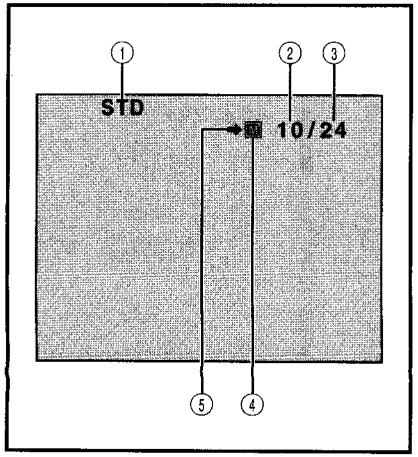
LCD Monitor/Viewfinder Indications During Video Recording Only



*Setting "ON SCREEN" to "SIMPLE" in the Menu Screen removes indications marked with * from the screen (☞ pg. 33, 46).

No.	Function
①	Displays the selected Fade/Wipe effect. (☞ pg. 38, 39)
②	Appears when in the Squeeze, Cinema or PS Wide mode. (☞ pg. 32)
③*	Appears when in the Record-Standby mode. (☞ pg. 16)
④*	Displays the recording mode (SP or LP). (☞ pg. 11)
⑤*	Displays the tape remaining time. (☞ pg. 16)
⑥	Appears during recording. (☞ pg. 16)
⑦	Appears when the wind cut mode is engaged to cut down on noise created by wind. (☞ pg. 33)
⑧	Appears while the tape is running. (☞ pg. 16)
⑨	• HIGH SPEED: Appears for a few seconds when the High Speed Recording mode is selected. (☞ pg. 28) • 5S MODE/ANIM. MODE: Displays the 5 second recording mode or Animation recording mode. (☞ pg. 32, 37)
⑩	Displays the sound mode for approx. 5 seconds after turning on the camcorder. (☞ pg. 31)
⑪	Displays the Time Code. (☞ pg. 23, 33)

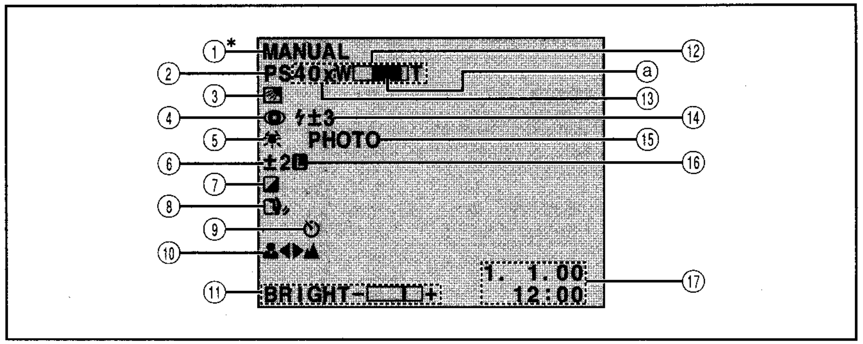
LCD Monitor/Viewfinder Indications During D.S.C. Recording Only



No.	Function
①	Displays the Picture Quality mode of the stored image. There are 3 modes available: FINE, STD (Standard) and ECO. (Economy) (in order of quality). (☞ pg. 13)
②	Displays the number of images that have already been shot. (☞ pg. 20)
③	Displays the total number of shots that can be stored, including those already taken. (☞ pg. 20)
④	• Appears during shooting. • Blinks when a MultiMediaCard is not loaded. (☞ pg. 20)
⑤	Appears and blinks during shooting. (☞ pg. 20)

These indications also appear during DUAL mode.

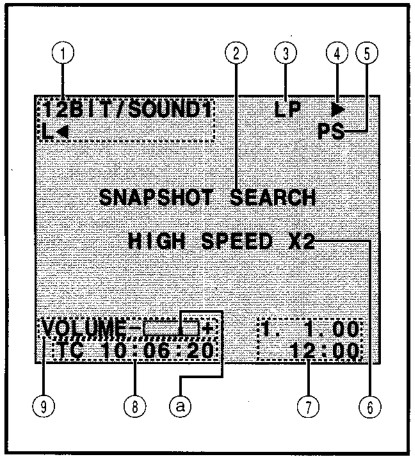
LCD Monitor/Viewfinder Indications During Both Video And D.S.C. Recording



No.	Function
①*	Displays the power switch position. (☞ pg. 14)
②	Displays the shooting mode position. (☞ pg. 15)
③	Appears when backlight or spotlight compensation is used. (☞ pg. 42)
④	Appears when "FLASH" is set to "AUTO ◉" in the Menu Screen. (☞ pg. 34)
⑤	Appears when the white balance is adjusted. (☞ pg. 43)
⑥	Appears when the exposure is adjusted. (☞ pg. 42)
⑦	Displays the selected Programme AE with special effects. (☞ pg. 40, 41)
⑧	Appears when Digital Image Stabiliser ("DIS") is engaged. (☞ pg. 32)
⑨	Appears during Self-Timer recording. (☞ pg. 36)
⑩	Appears when the focus is adjusted manually. (☞ pg. 27)
⑪	Displays the brightness of the LCD monitor or the viewfinder. (☞ pg. 16)
⑫	Appears during zooming. ⓐ Zoom level indicator (☞ pg. 22)
⑬	• Approximate zoom ratio: Appears during zooming. (☞ pg. 22) • A☀: Appears when Auto Slow Shutter is engaged ("GAIN UP" is set to "AUTO"). (☞ pg. 31)
⑭	Appears when the flash is ready. A number appears next to the indication after adjusting the brightness of the flash. (☞ pg. 34, 35)
⑮	Appears when taking a Snapshot. (☞ pg. 18, 20)
⑯	Appears when the iris is locked. (☞ pg. 42)
⑰	Displays the date/time. (☞ pg. 9)

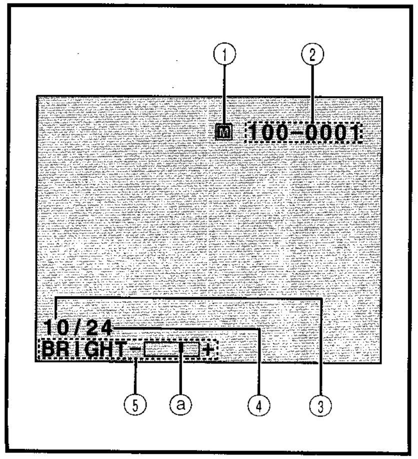
*Setting "ON SCREEN" to "SIMPLE" in the Menu Screen removes indications marked with * from the screen (☞ pg. 33, 46).

LCD Monitor/Viewfinder Indications During Video Playback



No.	Function
①	Displays the sound mode. (☞ pg. 46, 47)
②	Appears blinking during Snapshot Search. (☞ pg. 19)
③	Displays the tape speed. (☞ pg. 11)
④	Appears while a tape is running. ▶ : Playback ▶▶ : Fast-Forward/Shuttle search ◀◀ : Rewind/Shuttle search ❚❚ : Pause ❚❚▶ : Forward slow-motion ◀❚❚ : Reverse slow-motion ● : Audio Dubbing ❚❚● : Audio Dubbing Pause
⑤	Appears during playback of images recorded in the Progressive mode. (☞ pg. 24)
⑥	Appears for a few seconds during playback of images recorded in the High Speed Recording mode. (☞ pg. 29)
⑦	Displays the date/time. (☞ pg. 46, 47)
⑧	Displays the time code. (☞ pg. 46, 47)
⑨	BRIGHT : Displays the brightness of the LCD monitor or the viewfinder. (☞ pg. 16) VOLUME : Displays the speaker or headphone volume. (☞ pg. 44) ⓐ The level indicator moves.

LCD Monitor/Viewfinder Indications During D.S.C. Playback



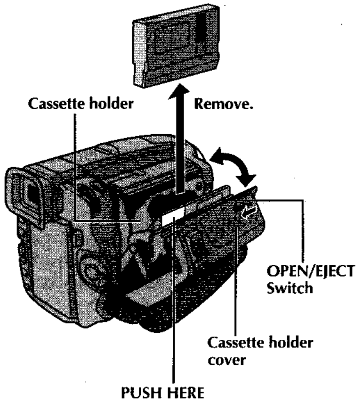
No.	Function
①	Blinks when a MultiMediaCard is not loaded.
②	Displays the directory and file names. (☞ pg. 48)
③	Displays the index number of the image file. (☞ pg. 48)
④	Displays the total number of stored images. (☞ pg. 48)
⑤	Displays the brightness of the LCD monitor or the viewfinder. (☞ pg. 16) ⓐ The level indicator moves.

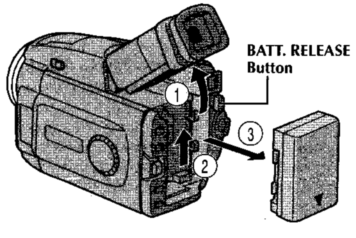
Warning Indications

Indications	Function
▮▮▮	Displays the battery remaining power. Remaining power level: high —— ▮▮▮ → ▮▮ → ▮ → ▭ Remaining power level: exhausted —— As the battery power comes close to nil, the battery indicator ▭ blinks. When the battery power is exhausted, power turns off automatically.
📼	Appears when no tape is loaded. (☞ pg. 10)
CHECK TAPE'S ERASE PROTECTION SWITCH	Appears when the erase protection tab is set to "SAVE" while the Power Switch is set to "A" or "M". (☞ pg. 10)
⊗ HEAD CLEANING REQUIRED USE CLEANING CASSETTE	Appears if dirt is detected on the heads during recording. Use an optional cleaning cassette. (☞ pg. 95)
💧 CONDENSATION OPERATION PAUSED PLEASE WAIT	Appears if condensation occurs. When this indication is displayed, wait more than 1 hour until condensation disappears.
TAPE!	Appears if a tape is not loaded when the Recording Start/Stop Button is pressed while the Power Switch is set to "A" or "M" and the Shooting Mode Dial is set to "VIDEO", "PS" or "DUAL".
TAPE END	Appears when the tape ends during recording or playback. (☞ pg. 17)
SET DATE/TIME!	• Appears when the date/time is not set. (☞ pg. 9) • Appears when the clock (lithium) battery is discharged and the previously set date/time is erased. (☞ pg. 9)
ERROR! REFER MANUAL	• Appears when Audio Dubbing is unavailable. (☞ pg. 78) • Appears if dubbing of copyguarded signals is attempted while this camcorder is being used as a recorder.
MEMORY IS FULL	Appears when the MultiMediaCard's memory is full and shooting is not possible.
MEMORY CARD!	Appears if a MultiMediaCard is not loaded when SNAPSHOT is pressed while the Power Switch is set to "A" or "M" and the Shooting Mode Dial is set to "VGA", "XGA" or "DUAL".
PLEASE FORMAT	Appears when there is a problem with a MultiMediaCard and its memory is corrupt, or it has not been initialised. Initialise the MultiMediaCard. (☞ pg. 53)
NO STORED IMAGE	Appears when the Power Switch set to "DSC PLAY" when there are no images stored in the MultiMediaCard.
E01 — E06 UNIT IN SAFEGUARD MODE REMOVE AND REATTACH BATTERY	The error indications (E01 — E06) show what type of malfunction has occured. When an error indication appears, the camcorder turns off automatically. Remove the power supply (battery, etc.) and wait a few minutes for the indication to clear. When it does, you can resume using the camcorder. If the indication remains, consult your nearest JVC dealer.

After Use

1. Turn off the camcorder.
2. Slide **OPEN/EJECT** in the direction of the arrow, then swing the cassette holder cover open until it locks. The cassette holder opens automatically. Remove the cassette.
3. Press "PUSH HERE" to close the cassette holder.
   - Once the cassette holder is closed, it recedes automatically. Wait until it recedes completely before closing the cassette holder cover.
4. Press **BATT. RELEASE** and remove the battery pack.



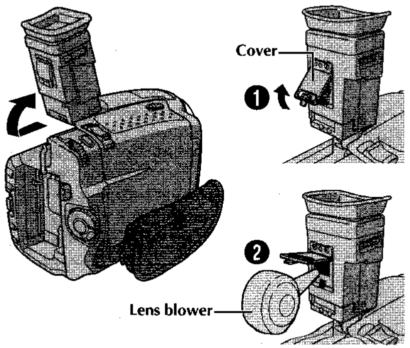


Cleaning The Camcorder

1. To clean the exterior, wipe gently with a soft cloth.
   Put the cloth in diluted mild soap and wring it well to wipe off heavy dirt. Then wipe again with a dry cloth.
2. Press **PUSH-OPEN** and open the LCD monitor. Wipe gently with a soft cloth. Be careful not to damage the monitor. Close the LCD monitor.
3. To clean the lens, blow it with a blower brush, then wipe gently with lens cleaning paper.
4. To clean the viewfinder, raise it to the vertical position. Carefully lift the plastic tab on the bottom of the viewfinder, and open the cover ❶.
5. Insert a lens blower or soft cloth into the gap at the bottom of the viewfinder and clean the interior of the viewfinder with it ❷.
6. Close the cover. Tilt the viewfinder back to the horizontal position and push it back in.

NOTES:

- *Avoid using strong cleaning agents such as benzine or alcohol.*
- *Cleaning should be done only after the battery pack has been removed or other power units have been disconnected.*
- *Mould may form if the lens is left dirty.*
- *When using a cleaner or chemically treated cloth refer to the cautions of each product.*



General Battery Precautions

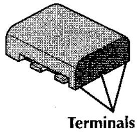
If the remote control is not functioning even if it is being operated correctly, the batteries are exhausted. Replace them with fresh ones.

Use only the following batteries: R03 (AAA) size x 2

Please make note of the following rules for battery use. When misused, the batteries can leak or explode.

1. When replacing batteries, refer to page 68.
2. **Do not** use any different size of batteries from those specified.
3. Be sure to install batteries in the correct direction.
4. **Do not** use rechargeable batteries.
5. **Do not** expose the batteries to excessive heat as they can leak or explode.
6. **Do not** dispose of the batteries in a fire.
7. Remove the batteries from the unit if it is to be stored for an extended period to avoid battery leakage which can cause malfunctions.

Battery Packs



The supplied battery pack is a lithium-ion battery. Before using the supplied battery pack or an optional battery pack, be sure to read the following cautions:

1. To avoid hazards . . .

.... **do not** burn.
.... **do not** short-circuit the terminals.
.... **do not** modify or disassemble.
.... **do not** expose the battery to temperatures exceeding 60°C, as this may cause the battery to overheat, explode or catch fire.
.... use only specified chargers.

2. To prevent damage and prolong service life . . .

.... **do not** subject to unnecessary shock.
.... charge in an environment where temperatures are within the tolerances shown in the chart below. This is a chemical reaction type battery—cooler temperatures impede chemical reaction, while warmer temperatures can prevent complete charging.
.... store in a cool, dry place. Extended exposure to high temperatures will increase natural discharge and shorten service life.
.... fully charge and then fully discharge the battery every 6 months when storing the battery pack over a long period time.
.... remove from charger or powered unit when not in use, as some machines use current even when switched off.

NOTES:

- *It is normal for the battery pack to be warm after charging, or after use.*

Temperature Range Specifications

Charging .... 10°C to 35°C
Operation .... 0°C to 40°C
Storage .... –10°C to 30°C

- *Recharging time is based on room temperature of 20°C.*
- *The lower the temperature, the longer recharging takes.*

Cassettes

To properly use and store your cassettes, be sure to read the following cautions:

1. During use . . .
- .... make sure the cassette bears the Mini DV mark.
- .... be aware that recording onto prerecorded tapes automatically erases the previously recorded video and audio signals.
- .... make sure the cassette is positioned properly when inserting.
- .... do not load and unload the cassette repeatedly without allowing the tape to run at all. This slackens the tape and can result in damage.
- .... do not open the front tape cover. This exposes the tape to fingerprints and dust.

2. Store cassettes . . .
- .... away from heaters or other heat sources.
- .... out of direct sunlight.
- .... where they won't be subject to unnecessary shock or vibration.
- .... where they won't be exposed to strong magnetic fields (such as those generated by motors, transformers or magnets).
- .... vertically, in their original cases.

MultiMediaCards

To properly use and store your MultiMediaCards, be sure to read the following cautions:

1. During use . . .
- .... make sure the MultiMediaCard bears the MultiMediaCard mark.
- .... make sure the MultiMediaCard is positioned properly when inserting.

2. While the MultiMediaCard is being accessed (during recording, playback, deletion, initialisation, etc.) . . .
- .... never unload the MultiMediaCard and never turn off the camcorder.

3. Store MultiMediaCards . . .
- .... away from heaters or other heat sources.
- .... out of direct sunlight.
- .... where they won't be subject to unnecessary shock or vibration.
- .... where they won't be exposed to strong magnetic fields (such as those generated by motors, transformers or magnets).

LCD Monitor

1. To prevent damage to the LCD monitor, DO NOT . . .
- .... push it strongly or apply any shocks.
- .... place the camcorder with the LCD monitor on the bottom.

2. To prolong service life . . .
- .... avoid rubbing it with coarse cloth.

3. Be aware of the following phenomena for LCD monitor use.
These are not malfunctions:
- While using the camcorder, the surface around the LCD monitor and/or the back of the LCD monitor may heat up.
- If you leave power on for a long time, the surface around the LCD monitor becomes hot.

Main Unit

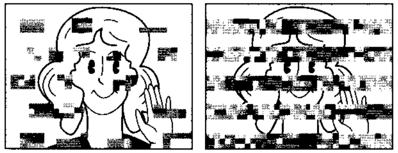
1. For safety, DO NOT . . .
- .... open the camcorder's chassis.
- .... disassemble or modify the unit.
- .... short-circuit the terminals of the battery pack. Keep it away from metallic objects when not in use.
- .... allow inflammables, water or metallic objects to enter the unit.
- .... remove the battery pack or disconnect the power supply while the power is on.
- .... leave the battery pack attached when the camcorder is not in use.

2. Avoid using the unit . . .
- .... in places subject to excessive humidity or dust.
- .... in places subject to soot or steam such as near a cooking stove.
- .... in places subject to excessive shock or vibration.
- .... near a television set.
- .... near appliances generating strong magnetic or electric fields (speakers, broadcasting antennas, etc.).
- .... in places subject to extremely high (over 40°C) or extremely low (under 0°C) temperatures.

3. DO NOT leave the unit . . .
- .... in places of over 50°C.
- .... in places where humidity is extremely low (below 35%) or extremely high (above 80%).
- .... in direct sunlight.
- .... in a closed car in summer.
- .... near a heater.

4. To protect the unit, DO NOT . . .
- .... allow it to become wet.
- .... drop the unit or strike it against hard objects.
- .... subject it to shock or excessive vibration during transportation.
- .... keep the lens directed at extremely bright objects for long periods.
- .... expose the lens to direct sunlight.
- .... carry it by holding the LCD monitor or the viewfinder.
- .... swing it excessively when using the shoulder strap or the grip.

5. Dirty heads can cause the following problems:



- No picture during playback.
- Blocks of noise appear during playback.
- During recording, the Head Clog Warning indicator "⊗" appears.

In such cases, use an optional cleaning cassette. Insert it and play back. If the cassette is used more than once consecutively, damage to the video heads may result. After the camcorder plays back for about 20 seconds, it stops automatically. Also refer to the cleaning cassette's instructions.
If, after using the cleaning cassette, the problems still exist, consult your nearest JVC dealer.
Mechanical moving parts used to move the video heads and video tape tend to become dirty and worn out over time. In order to maintain a clear picture at all times, periodic check-ups are recommended after using the unit for about 1,000 hours. For periodic check-ups please consult your nearest JVC dealer.

How To Handle A CD-ROM

- Take care not to soil or scratch the mirror surface (opposite to the printed surface). Do not write anything or put a sticker on either the front or back surface. If the CD-ROM gets dirty, gently wipe it with a soft cloth outward from the centre hole using a circular motion.
- Do not use conventional disc cleaners or cleaning spray.
- Do not bend the CD-ROM or touch its mirror surface.
- Do not store your CD-ROM in a dusty, hot or humid environment. Keep it away from direct sunlight.

About moisture condensation . . .
- You have observed that pouring a cold liquid into a glass will cause drops of water to form on the glass' outer surface. This same phenomenon occurs on the head drum of a camcorder when it is moved from a cool place to a warm place, after heating a cold room, under extremely humid conditions or in a place directly subjected to the cool air from an air conditioner.
- Moisture on the head drum can cause severe damage to the video tape, and can lead to internal damage to the camcorder itself.

Serious malfunctioning

If malfunctioning occurs, stop using the unit immediately and consult your local JVC dealer.

The camcorder is a microcomputer-controlled device. External noise and interference (from a TV, a radio, etc.) might prevent it from functioning properly. In such cases, first disconnect its power supply unit (battery pack, AC Power Adapter/Battery Charger, etc.) and wait a few minutes and then re-connect it and proceed as usual from the beginning.

A

AC Power Adapter/Charger ☞ pg. 6, 7
Analogue Input ☞ pg. 46, 63
Animation ☞ pg. 32
Audio Dubbing ☞ pg. 78
Auto Date ☞ pg. 33
Auto Focus ☞ pg. 27
Auto Playback ☞ pg. 48
Auto Shut off ☞ pg. 17, 21, 44

B

Backlight Compensation ☞ pg. 42
Battery Low ☞ pg. 91
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Brighten The LCD Monitor ☞ pg. 16
Built-in Clock's Lithium Battery ☞ pg. 9

C

Channels (Left/Right) ☞ pg. 47
Charge The Battery Pack ☞ pg. 6
Cinema ☞ pg. 32
Classic Film ☞ pg. 41
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D

Darken The LCD Monitor ☞ pg. 16
Date/Time Display ☞ pg. 33, 46, 47
Date/Time Settings ☞ pg. 9
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DIS (Digital Image Stabiliser) ☞ pg. 32
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Erase Protection ☞ pg. 10
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Fade-In/Out ☞ pg. 38, 39
Fast-Forward The Tape ☞ pg. 44
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G

Gain Up ☞ pg. 31
Grip Adjustment ☞ pg. 8

H

High Speed Recording ☞ pg. 28

I

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Index Playback ☞ pg. 49
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Interface Shooting ☞ pg. 17
Iris ☞ pg. 42
Iris Lock ☞ pg. 42

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Journalistic Shooting ☞ pg. 17

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LCD monitor/Viewfinder
  Indications ☞ pg. 88 – 91
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Menu Screen, CAMERA MENU ☞ pg. 31
Menu Screen, DISPLAY MENU ☞ pg. 33, 46
Menu Screen, DSC MENU ☞ pg. 50
Menu Screen, MANUAL MENU ☞ pg. 32, 33
Menu Screen, VIDEO MENU ☞ pg. 46
Monotone ☞ pg. 41
Motor Drive Mode ☞ pg. 18
MultiMediaCard ☞ pg. 12, 94

P

Picture Quality Mode ☞ pg. 13
Picture Wipe/Dissolve ☞ pg. 38, 39
Playback Special Effects ☞ pg. 71
Playback Zoom ☞ pg. 70
Power Switch Position ☞ pg. 14
Print Frame Deletion ☞ pg. 54, 55
Printer ☞ pg. 61
Programme AE With Special Effects ☞ pg. 40, 41
Progressive Mode ☞ pg. 24, 25
Progressive Slow-Motion Playback ☞ pg. 30
Progressive Wide ☞ pg. 32
Protecting Images ☞ pg. 50
Provided Accessories ☞ pg. 4

R

Random Assemble Editing ☞ pg. 72 – 77
Record-Standby ☞ pg. 16
Recording Mode ☞ pg. 11
Red-Eye Reduction ☞ pg. 34
Remote Control ☞ pg. 68
Rewind The Tape ☞ pg. 44

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Self-Recording ☞ pg. 17
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Set Remote Control/VCR Code ☞ pg. 72
Shooting Mode, DUAL ☞ pg. 15
Shooting Mode, VGA ☞ pg. 15
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Shuttle Search ☞ pg. 44
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Unload A Tape ☞ pg. 10

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Video Echo ☞ pg. 41

W

White Balance ☞ pg. 43
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Z

Zooming ☞ pg. 22

Camcorder

For General

Power supply	: DC 6.3 V⎓ (Using AC Power Adapter/Charger) DC 7.2 V⎓ (Using battery pack)
Power consumption	
LCD monitor off, viewfinder on	: Approx. 4.4 W
LCD monitor on, viewfinder off	: Approx. 5.2 W
Dimensions (W x H x D)	: 77 mm x 94 mm x 142 mm (with the LCD monitor closed and the viewfinder pushed back in)
Weight	: Approx. 620 g (without cassette, MultiMediaCard and battery) Approx. 700 g (incl. cassette, MultiMediaCard and battery)
Operating temperature	: 0°C to 40°C
Operating humidity	: 35% to 80%
Storage temperature	: –20°C to 50°C
Pickup	: 1/3" CCD (Progressive Scan)
Lens	: F 1.8, f = 5 to 50 mm, 10:1 power zoom lens
Filter diameter	: ø37 mm
LCD monitor	: 3.5" diagonally measured, LCD panel/TFT active matrix system
Viewfinder	: Electronic viewfinder with 0.55" colour LCD
Speaker	: Monaural

For Digital Video Camera

Format	: DV format (SD mode)
Signal format	: PAL standard
Recording/Playback format	: Video: Digital component recording
	: Audio: PCM digital recording, 32 kHz 4-channel (12-bit), 48 kHz 2-channel (16-bit)
Cassette	: Mini DV cassette
Tape speed	: SP: 18.8 mm/s LP: 12.5 mm/s
Maximum recording time (using 80 min. cassette)	: SP: 80 min. LP: 120 min.

For Digital Still Camera

Storage media	: MultiMediaCard
Compression system	: JPEG (compatible)
File size	: 2 modes (XGA: 1024 x 768 pixels/VGA: 640 x 480 pixels)
Picture quality	: 3 modes (FINE/STANDARD/ECONOMY)
Approximate number of storable images	
(with the provided MultiMediaCard [4 MB])	
FINE	: 25 (VGA), 12 (XGA)
STANDARD	: 50 (VGA), 24 (XGA)
ECONOMY	: 75 (VGA), 36 (XGA)
(with an optional MultiMediaCard [8 MB])	
FINE	: 50 (VGA), 24 (XGA)
STANDARD	: 100 (VGA), 48 (XGA)
ECONOMY	: 150 (VGA), 72 (XGA)

For Connectors

S-VIDEO	
Output	: Y : 1 V (p-p), 75 Ω, analogue C : 0.29 V (p-p), 75 Ω, analogue
Input (GR-DVL9800 only)	: Y : 0.8 V (p-p) – 1.2 V (p-p), 75 Ω, analogue C : 0.2 V (p-p) – 0.4 V (p-p), 75 Ω, analogue
AV	
Video output	: 1 V (p-p), 75 Ω, analogue
Video input (GR-DVL9800 only)	: 0.5 V (p-p) – 2.0 V (p-p), 75 Ω, analogue
Audio output	: 300 mV (rms), 1 kΩ, analogue, stereo
Audio input (GR-DVL9800 only)	: 300 mV (rms), 50 kΩ, analogue, stereo
DV	
Input/output (GR-DVL9800 only)	: 4-pin, IEEE 1394 compliant
Output (GR-DVL9700 only)	: 4-pin, IEEE 1394 compliant
PHONE	
Headphone output	: ø3.5 mm, stereo
MIC	
External microphone input	: 506 μV (rms), high impedance unbalanced, ø3.5 mm (stereo)
PC (DIGITAL STILL)	
Digital still output	: ø2.5 mm, 3-pole
JLIP/EDIT	: ø3.5 mm, 4-pole
PRINTER	: For an optional video printer equipped with a PRINT DATA connector

AC Power Adapter/Charger AA-V67EG or AA-V67EK

Power requirement	: AC 110 V to 240 V∼, 50 Hz/60 Hz
Power consumption	: 23 W
Output	
Charge	: DC 7.2 V⎓, 1.2 A
VTR	: DC 6.3 V⎓, 1.8 A
Dimensions (W x H x D)	: 68 mm x 38 mm x 110 mm
Weight	
AA-V67EG	: Approx. 245 g
AA-V67EK	: Approx. 300 g

Specifications shown are for SP mode unless otherwise indicated. E & O.E. Design and specifications subject to change without notice.

JVC

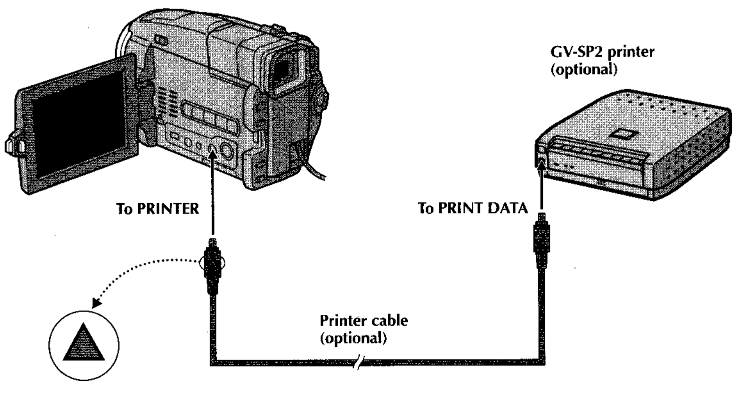
English

FOR OWNERS OF AN OPTIONAL PRINTER*

*Equipped with a PRINT DATA connector

The GR-DVL9800 or GR-DVL9700 camcorder can control a video printer equipped with a PRINT DATA connector.
This instruction sheet only explains connection to the printer and commands to operate it.
For details on loading an ink cassette or paper tray, etc., refer to the instructions provided with the printer.

Ex. : Connection to the GV-SP2 printer

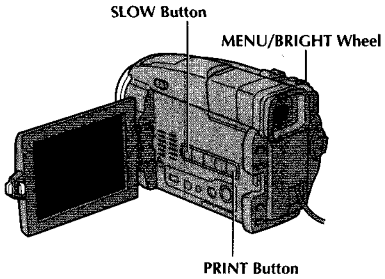


Connection

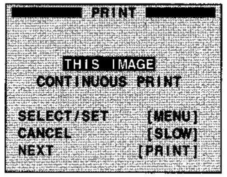
1 Make sure all units are turned off.

2 Connect the camcorder's PRINTER connector to the printer's PRINT DATA connector using a printer cable (optional) as shown.
- When connecting, align the ▲ mark on the printer cable plug with the ▲ mark on the camcorder and printer.

NOTE:
It is recommended to use the AC Power Adapter/ Charger as the power supply instead of the battery pack.

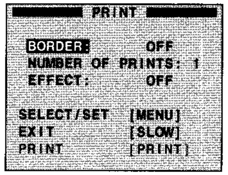


Display



```
PRINT
THIS IMAGE
CONTINUOUS PRINT
SELECT/SET     [MENU]
CANCEL         [SLOW]
NEXT          [PRINT]
```

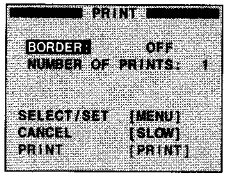
PRINT Menu (for playback of a MultiMediaCard)



```
PRINT
BORDER:             OFF
NUMBER OF PRINTS:   1
EFFECT:             OFF
SELECT/SET     [MENU]
EXIT           [SLOW]
PRINT          [PRINT]
```

PRINT Applied Menu (for playback of a MultiMediaCard)

Printing



```
PRINT
BORDER:             OFF
NUMBER OF PRINTS:   1
SELECT/SET     [MENU]
CANCEL         [SLOW]
PRINT          [PRINT]
```

PRINT Applied Menu (for playback of a tape)

Printing

Basic Printing

You can print still images stored in a MultiMediaCard or on a tape.

1 Play back the MultiMediaCard or tape containing the still images you wish to print. To print still images stored on a tape, be sure to engage the Still Playback mode.

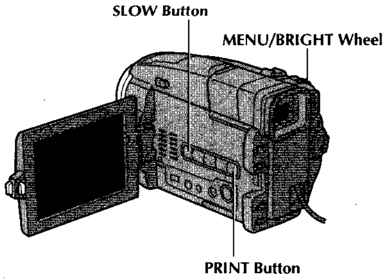
2 ***If the desired still image is on a tape . . .***
.... press **PRINT**. The PRINT Applied Menu appears.
If the desired still image is in a MultiMediaCard . . .
.... press **PRINT**. The PRINT Menu appears. Press **PRINT** again or **MENU/BRIGHT** to call up the PRINT Applied Menu.

- To exit the Menu Screen, press **SLOW** until the Menu Screen closes.

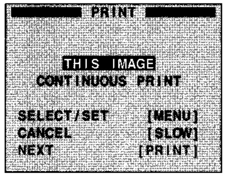
3 To start printing, press **PRINT**. The message "NOW PRINTING!" appears. When printing is finished, the message "PRINTING COMPLETED" appears and the normal playback screen resumes.

NOTES:

- *The camcorder has 9 preset print frames stored in its memory. To use them, refer to the camcorder's instructions.*
- *To print a still image with special effects, ☞ "Effect Print".*
- *For continuous printing, ☞ "Continuous Print"*
- *To print still images stored on a tape using one of the 3 options above, first dub them from the tape to a MultiMediaCard, then print them. To dub images, refer to the camcorder's instructions.*
- *To make 2 or more prints of the same still image, ☞ "Frame And No. Of Prints".*
- *To print still images with a white frame, ☞ "Frame And No. Of Prints".*
- *A melody is played during printing. To turn the melody off, set "BEEP/TALLY" to "OFF" in the CAMERA MENU. Refer also to the camcorder's instructions.*

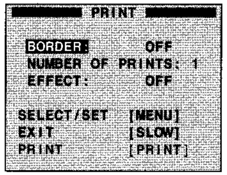


Display



```
PRINT
THIS IMAGE
CONTINUOUS PRINT
SELECT/SET     [MENU]
CANCEL         [SLOW]
NEXT          [PRINT]
```

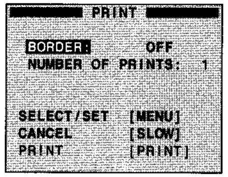
PRINT Menu (for playback of a MultiMediaCard)



```
PRINT
BORDER:             OFF
NUMBER OF PRINTS:   1
EFFECT:             OFF
SELECT/SET     [MENU]
EXIT           [SLOW]
PRINT          [PRINT]
```

PRINT Applied Menu (for playback of a MultiMediaCard)

Printing



```
PRINT
BORDER:             OFF
NUMBER OF PRINTS:   1
SELECT/SET     [MENU]
CANCEL         [SLOW]
PRINT          [PRINT]
```

PRINT Applied Menu (for playback of a tape)

Printing

Frame And No. Of Prints

You can print still images stored in a MultiMediaCard or on a tape with a white frame or no frame, and set the number of prints.

1 Select the still image you wish to print.

2 ***If the desired still image is on a tape . . .***
.... press **PRINT**. The PRINT Applied Menu appears.
If the desired still image is in a MultiMediaCard . . .
.... press **PRINT**. The PRINT Menu appears. Press **PRINT** or **MENU/BRIGHT** to call up the PRINT Applied Menu.

- To exit the Menu Screen, press **SLOW** until the Menu Screen closes.

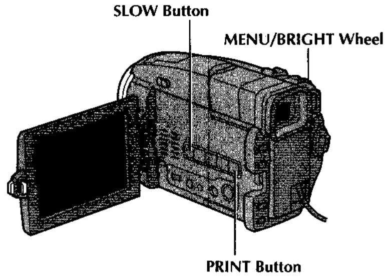
3 Rotate **MENU/BRIGHT** to select "BORDER" or "NUMBER OF PRINTS" and press it. Then, rotate it to select the desired parameter and press it. Selection is complete.

BORDER ON : White frame around the image.
OFF : No frame around the image.
NUMBER OF PRINTS : Input the number you wish to print.

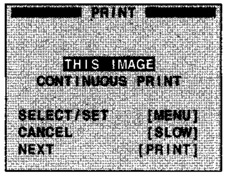
4 To start printing, press **PRINT**. The message "NOW PRINTING!" appears. When printing is finished, the message "PRINTING COMPLETED" appears and the normal playback screen resumes.

To Cancel Printing . . .
.... press **SLOW**. It is not possible to cancel the current image being printed, but the next one will be cancelled.

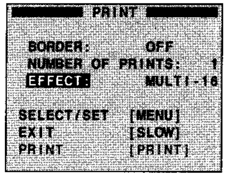
NOTE:
If printing is performed with "BORDER" set to "OFF", the edges of the stored still image will be clipped when printed. To avoid this, set "BORDER" to "ON".


SLOW Button
MENU/BRIGHT Wheel
PRINT Button

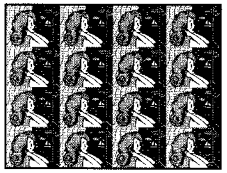
Display


PRINT
THIS IMAGE
CONTINUOUS PRINT
SELECT/SET [MENU]
CANCEL [SLOW]
NEXT [PRINT]

PRINT Menu


PRINT
BORDER: OFF
NUMBER OF PRINTS: 1
EFFECT: MULTI-16
SELECT/SET [MENU]
EXIT [SLOW]
PRINT [PRINT]

PRINT Applied Menu



(Ex.) Printed image when set to "MULTI-16"

Effect Print

You can print still images stored in a MultiMediaCard with the following effects.

MONOTONE	: Prints in black and white.
SEPIA	: Prints in sepia.
CALENDAR	: Makes an original calendar with an image.
MULTI-16	: Prints the same image 16 times on one sheet.

1. Select the still image you wish to print.

2. Press **PRINT**. The PRINT Menu appears. Press **PRINT** or **MENU/BRIGHT** to call up the PRINT Applied Menu.
   - To exit the Menu Screen, press **SLOW** until the Menu Screen closes.

3. Rotate **MENU/BRIGHT** to select "EFFECT" and press it. Then, rotate it to select the desired parameter and press it. Selection is complete and the processed image appears.
   - If you select "CALENDAR", the year is highlighted. Rotate **MENU/BRIGHT** to select the desired year and press it. The month is highlighted. Rotate **MENU/BRIGHT** to select the desired month and press it.

4. If necessary, set "BORDER" to "ON" or "OFF" (☞ "Frame And No. Prints").
   - If "EFFECT" is set to "MULTI-16", be sure to set "BORDER" to "ON".
   - If "EFFECT" is set to "CALENDAR", the "BORDER" setting cannot be changed.

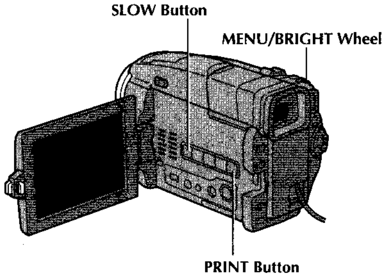
5. To start printing, press **PRINT**. The message "NOW PRINTING!" appears. When printing is finished, the message "PRINTING COMPLETED" appears and the normal playback screen resumes.

To Cancel The Effect . . .

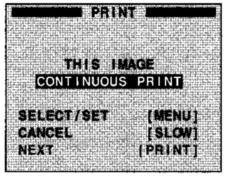
.... set "EFFECT" to "OFF" in step **3**.

NOTE:

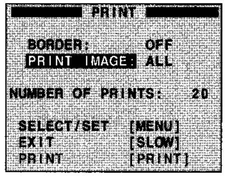
When a print frame is superimposed over a still image and "EFFECT" is set to "OFF", the print frame will be also removed.


SLOW Button
MENU/BRIGHT Wheel
PRINT Button

Display


PRINT
THIS IMAGE
CONTINUOUS PRINT
SELECT/SET [MENU]
CANCEL [SLOW]
NEXT [PRINT]

PRINT Menu


PRINT
BORDER: OFF
PRINT IMAGE: ALL
NUMBER OF PRINTS: 20
SELECT/SET [MENU]
EXIT [SLOW]
PRINT [PRINT]

PRINT Applied Menu

Printing

Continuous Print

PRINTING ALL STILL IMAGES (ONE PRINT FOR EACH IMAGE)

You can print all the still images stored in a MultiMediaCard at one time. Each still image is printed once.

1. Press **PRINT**. The PRINT Menu appears. Rotate **MENU/BRIGHT** to select "CONTINUOUS PRINT" and press it. The PRINT Applied Menu appears.
   - To exit the Menu Screen, press **SLOW** until the Menu Screen closes.

2. Rotate **MENU/BRIGHT** to select "PRINT IMAGE" and press it. Then, rotate it to select "ALL" and press it. Selection is complete. The number next to "NUMBER OF PRINTS" indicates the number of sheets required.

3. If necessary, set "BORDER" to "ON" or "OFF" (☞ "Frame And No. Of Prints").

4. To start printing, press **PRINT**. The message "NOW PRINTING!" appears. When printing is finished, the message "PRINTING COMPLETED" appears and the normal playback screen resumes.

To Cancel Printing . . .

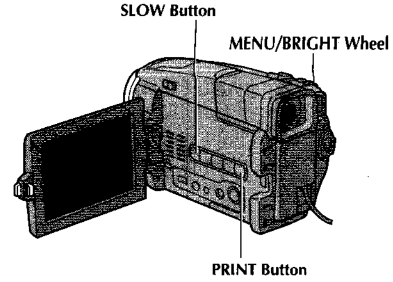
.... press **SLOW**. It is not possible to cancel an image being printed, but the next one will be cancelled.

To Reset Setting . . .

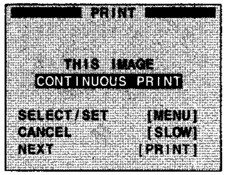
.... set "PRINT IMAGE" to "RESET" in step **2**. The setting is reset to 0 for all still images.

NOTE:

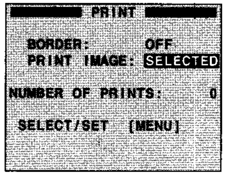
*When a print frame is superimposed over a still image and "CONTINUOUS PRINT" is selected in step **1**, the print frame will be cancelled.*



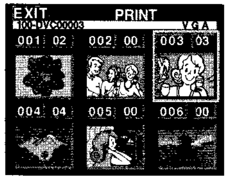
Display


PRINT
THIS IMAGE
CONTINUOUS PRINT
SELECT/SET [MENU]
CANCEL [SLOW]
NEXT [PRINT]

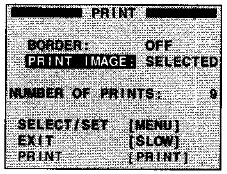
PRINT Menu


PRINT
BORDER: OFF
PRINT IMAGE: SELECTED
NUMBER OF PRINTS: 0
SELECT/SET [MENU]

PRINT Applied Menu


EXIT PRINT
100-DVC00003 VGA
001 02 002 00 003 03
004 04 005 00 006 00

PRINT Index Screen


PRINT
BORDER: OFF
PRINT IMAGE: SELECTED
NUMBER OF PRINTS: 9
SELECT/SET [MENU]
EXIT [SLOW]
PRINT [PRINT]

Printing

PRINTING SELECTED STILL IMAGES AND NO. OF PRINTS

It is possible to select some still images in a MultiMediaCard, set the number of prints for each one, and print them.

1. Press **PRINT**. The PRINT Menu appears. Rotate **MENU/BRIGHT** to select "CONTINUOUS PRINT" and press it. The PRINT Applied Menu appears.
   - To exit the Menu Screen, press **SLOW** until the Menu Screen closes.
2. Rotate **MENU/BRIGHT** to select "PRINT IMAGE" and press it. Then, rotate it to select "SELECTED" and press it. The PRINT Index Screen appears.
3. Rotate **MENU/BRIGHT** to move the green frame to the image you wish to print and press it.
4. Select the number of prints by rotating **MENU/BRIGHT** towards "+" to increase the number or towards "–" to decrease the number, then press it.

   Repeat steps **3** and **4** to select all the desired prints.
   - The number of prints can be set up to 15.
   - To change the number of prints, select the image again and change the number.
5. Rotate **MENU/BRIGHT** upward to select "EXIT" and press it. The PRINT Applied Menu appears. The number next to "NUMBER OF PRINTS" indicates the number of sheets required.
6. If necessary, set "BORDER" to "ON" or "OFF" (☞ "Frame And No. Of Prints").
7. To start printing, press **PRINT**. The message "NOW PRINTING!" appears. When printing is finished, the message "PRINTING COMPLETED" appears and the normal playback screen resumes.

To Cancel Printing . . .

.... press **SLOW**. It is not possible to cancel an image being printed, but the next one will be cancelled.

To Reset Setting . . .

.... set "PRINT IMAGE" to "RESET" in step **2**. The setting is reset to 0 for all still images.

Print Message

Message	Appears when:
NOW PRINTING!	Printing.
NUMBER OF SHEETS: 10 **REMAINING SHEETS: 5**	The total number of prints (ex. 10 sheets) and remaining number of prints (ex. 5 sheets) are displayed.
PRINTING COMPLETED	Printing is finished.
SET INK CASSETTE	No ink cassette is loaded. Refer to the printer's instructions to load one.
PULL OUT PAPER TRAY AND CHECK PAPER	Print sheets are not loaded in the tray or the paper tray is running out of paper during continuous printing. Refer to the printer's instructions to load print sheets in the tray.
REPLACE INK CASSETTE	The ink cassette is used up. Refer to the printer's instructions to replace it with a new one.
INK ERROR **CHECK INK CASSETTE**	There is a problem with the ink cassette. Refer to the printer's instructions to check it.
PRINT ERROR **PRINTING ABORTED**	Printing was not successful, but print sheets were output during printing. Try printing again.
PRINTER READY	An error interrupted printing but was resolved. Try printing again.
PLEASE WAIT	The temperature inside the printer has risen or printing was cancelled. Wait a few minutes before printing again.
PRINTER IS NOT CONNECTED	Printing was attempted while the printer was disconnected. Check the connection.
SELECT PICTURE WITH BORDER	"BORDER" is set to "OFF" and an ink cassette incapable of printing with no frame is loaded. Replace it with an ink cassette capable of printing with no frame or try printing with a frame ("BORDER" set to "ON").
TRANSMISSION ERROR	An error has occurred during transmission. Check the connection.
SET PAPER TRAY	The paper tray is not loaded at the start of printing. Refer to the printer's instructions to load it.
REPLACE BATTERY	Remaining battery power is low at the start of printing or during printing when a battery is used as the power supply. Replace the battery with a new one or use an AC power adapter.
PRINTER: SYSTEM ERROR	● A problem has occurred with the printer during printing. ● There is a problem with the printer when printing is attempted. ● Paper is jammed and is not output. If paper is jammed, refer to the printer's instructions to remove the jammed sheets. If they cannot be removed or if the paper is not jammed, consult a JVC dealer.

SECTION 1
DISASSEMBLY

1.1 BEFORE ASSEMBLY AND DISASSEMBLY

1.1.1 Precautions

1. Be sure to remove the power supply unit prior to mounting and soldering of parts.
2. When removing a component part that needs to disconnect the connector and to remove the screw for removing itself, first disconnect the connecting wire from the connector and then remove the screw beforehand.
3. When connecting and disconnecting the connectors, be careful not to damage the wire.
4. When replacing chip parts (especially IC parts), desolder completely first (to prevent peeling of the pattern).
5. Tighten screws properly during the procedures.
   Unless specified otherwise, tighten screws at a torque of 0.1N·m (1.0kgf·cm).

1.1.2 Assembly and disassembly

STEP /LOC NO.	PART	Fig. No.	REMOVAL	
			UNLOCK/RELEASE/ UNPLUG/UNCLAMP/ UNSOLDER	Note
①	UPPER CASE	Fig.1-3-1	(S1a), (S2b), (S1c), (S1d) (S1e), (L1a), 2(L1b), (L1c) CONNECTOR Ⓐ	Note 1b Note 1c
②	FRONT COVER ASSY		(S1b), 2(S1e) CONNECTOR Ⓑ, Ⓒ GRIP BELT	Note 1a Note 1b

↑ ↑ ↑ ↑ ↑

(1) (2) (3) (4) (5)

(1) Indicate the disassembly steps. When assembling, perform in the reverse order of these steps. This number corresponds to the number in the disassembly diagram.

(2) Indicates the name of disassembly/assembly parts.

(3) Indicates the number in the disassembly diagram.

(4) Indicates parts and points such as screws, washers, springs which must be removed during disassembly/assembly.
P = Spring
W = Washer
S = Screw
Lock (L), soldering (SD), shield, connector, etc.

[Example]
- Remove (W1) = Washer W1.
- Remove (SD1) = Soldering at the point SD1.
- Connector Ⓐ = Disconnector the connector Ⓐ.

(5) Precautions on disassembly/assembly.

1.1.3 Disconnection of Connectors (Wires)

Connector
Pull both ends of the connector in the arrow direction, remove the lock and disconnect the flat wire.

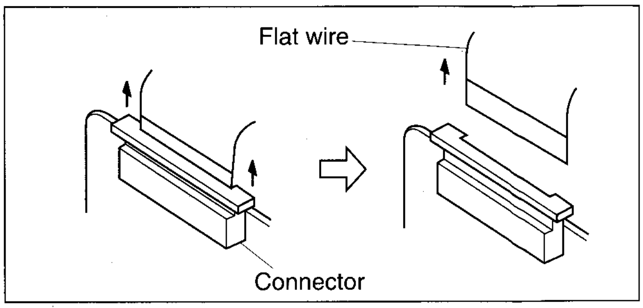


Fig. 1-1-1 Connector 1

Extend the locks in the direction of the arrow for unlocking and then pull out the wire. After removing the wire, immediately restore the locks to their original positions because the locks are apt to come off the connector.

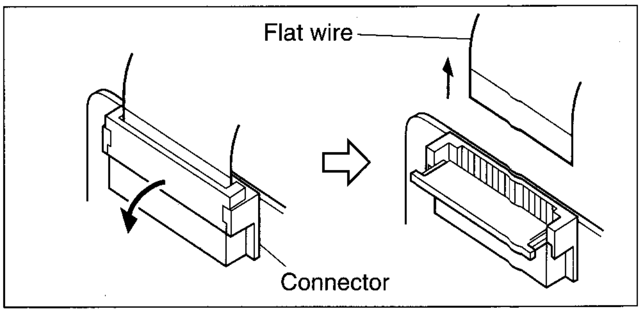


Fig. 1-1-2 Connector 2

B-B connector
Pull the board by both the sides in the direction of the arrow for disconnecting the B-B connector

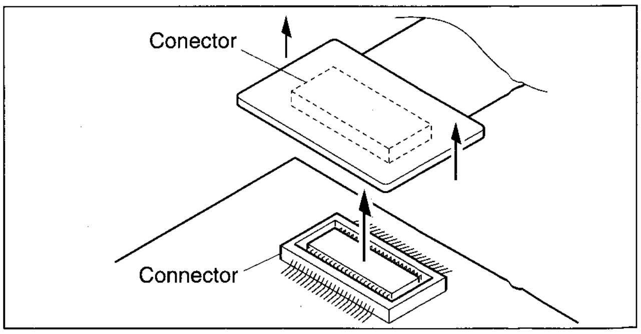


Fig. 1-1-3 Connector 3

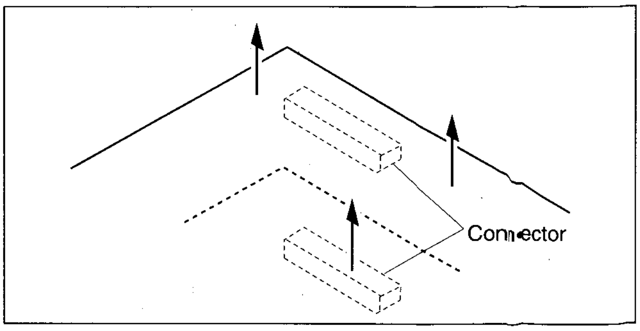


Fig. 1-1-4 Connector 4

1.2 TOOLS AND EQUIPMENTS REQUIRED FOR ADJUSTMENTS

1.2.1 Tools required for adjustments

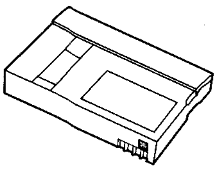
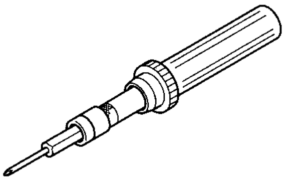
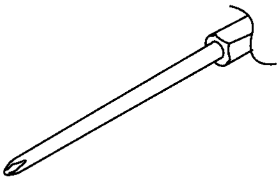
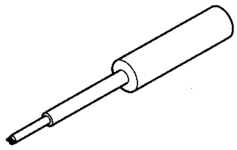
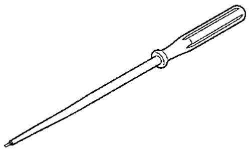
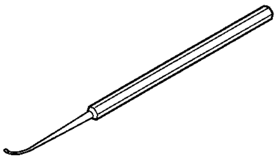
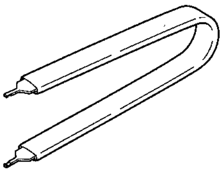
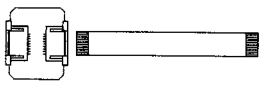
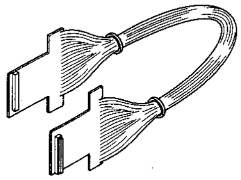
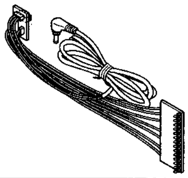
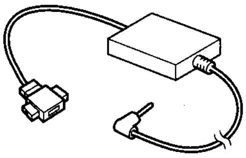
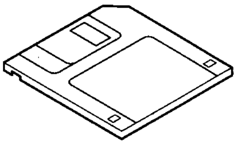
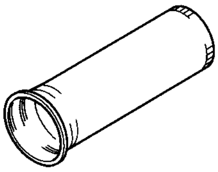
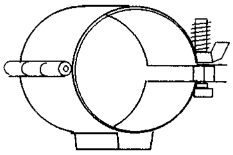
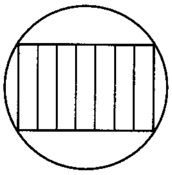
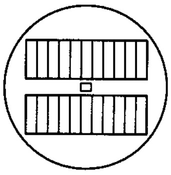
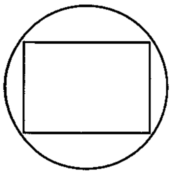
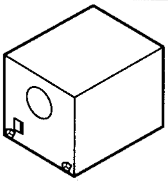
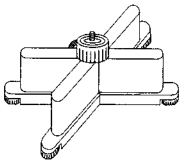
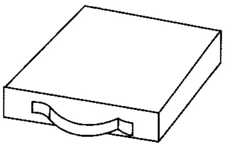
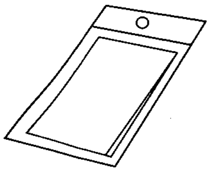
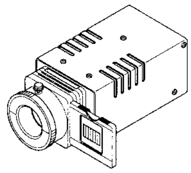
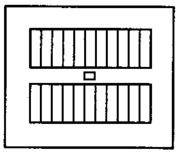
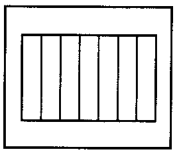
1 Alignment tape MC-2 	2 Torque driver YTU94088 	3 Bit YTU94088-003 	4 Guide driver YTU94148A 
5 Adjustment driver YTU94028 	6 Chip IC replacement jig PTS40844-2 	7 Connector catcher YTU94036A 	8 Patch cord YTU93103A 
9 Patch cord YTU94151A-130 	10 Jig connector cable YTU93102A 	11 PC cable QAM0099-002 	12 Service support system YTU94057-42 
13 INF adjustment lens YTU92001B 	14 INF adjustment lens holder YTU94087 	15 Color bar char YTU92001-051 	16 Gray scale chart YTU92001-052 
17 White balance chart YTU92001-053 	18 Light box YTU93072A-1 	19 Camera stand YTU93079 	20 Soldering kit YTU96016C 
21 Cleaning cloth KSMM-01 	22 Light box assembly YTU93096A 	23 Gray scale chart YTU94133A 	24 Color bar char YTU94133C 

Table 1-2-1

1. Alignment tape
   To be used for check and adjustment of interchangeability of the mechanism.
2. Torque driver
   Be sure to use to fastening the mechanism and exterior parts because those parts must strictly be controlled for tightening torque.
3. Bit
   This bit is slightly longer than those set in conventional torque drivers.
4. Guide driver
   To be used to turn the guide roller to adjustment of the linarity of playback envelope.

5. Adjustment driver
   To be used for adjustment.
6. Chip IC replacement jig
   To be used for adjustment of the camera system.
7. Connector catcher
   To be used to release the connector.

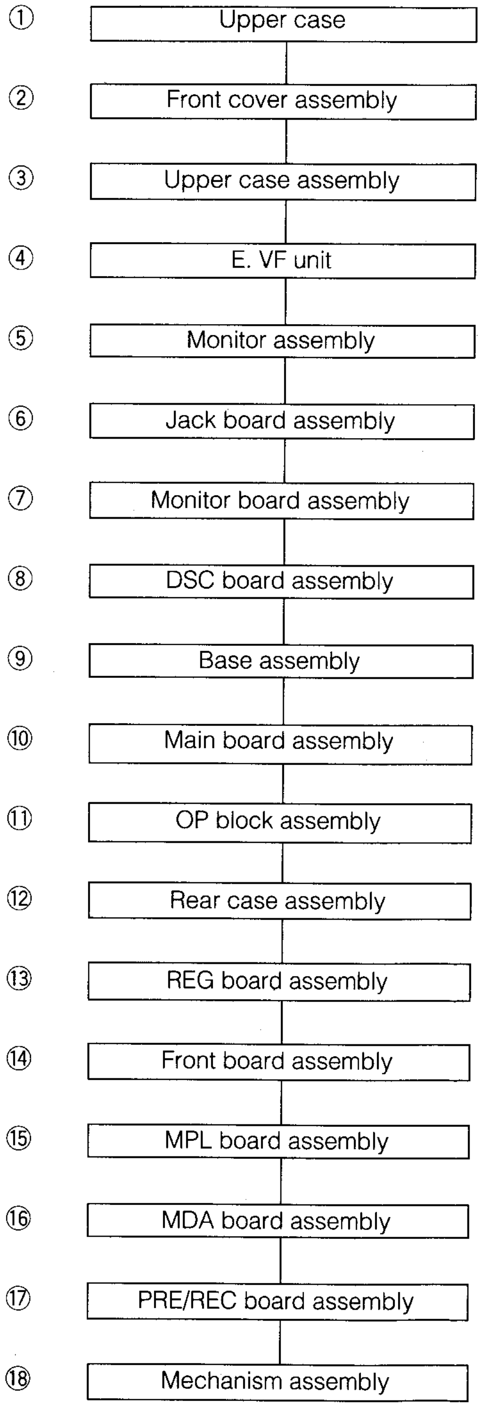
8/9. Patch cord
To be used to connect electrical parts, P.C. boards, etc. for servicing.

10. JIG connector cable
    Connected to CN303 of the reg board and used for measuring error rates, etc.
11. PC cable
    To be used to connect the VideoMovie and a personal computer with each other when a personal computer is used for adjustment.
12. Service support software
    To be used for adjustment with a personal computer.
13. INF adjustment lens
    To be used for adjustment of the camera system.
14. INF lens holder
    To be used together with the camera stand (19) for operating the VideoMovie in the stripped-down condition such as the status without the exterior parts or for using commodities that are not yet conformable to the interchangeable ring.
15. Color bar chart (for No. 13)
    To be used for adjustment of the camera system.
16. Gray scale chart (for No. 13)
    To be used for adjustment of the camera system.
17. White balance chart (for No. 13)
    To be used for adjustment of the camera system.
    (for white balance adjustment)
18. Light box
    To be used for adjustment of the camera system.
19. Camera stand
    To be used together with the INF adjustment lens holder.
20. Soldering kit
    Thin head is made so that it can be inserted into small spaces.
21. Cleaning cloth
    Recommended cleaning cloth to wipe down the video heads, mechanism (tape transport system), optical lens surface.
22. Light box (new type)
    To be used for adjustment of the camera system.
23. Gray scale chart (for No. 22)
    To be used for adjustment of the camera system.
24. Color bar chart (for No. 22)
    To be used for adjustment of the camera system.

1.3 DISASSEMBLY/ASSEMBLY OF CABINET PARTS

1.3.1 Disassembly flow chart

This flowchart indicates the disassembly step for the cabinet parts and board assembly in order to gain access to item(s) to be serviced. When reassembling, perform the step(s) in reverse order. Bend, route and dress the flat cables as they were originally.


① Upper case
② Front cover assembly
③ Upper case assembly
④ E. VF unit
⑤ Monitor assembly
⑥ Jack board assembly
⑦ Monitor board assembly
⑧ DSC board assembly
⑨ Base assembly
⑩ Main board assembly
⑪ OP block assembly
⑫ Rear case assembly
⑬ REG board assembly
⑭ Front board assembly
⑮ MPL board assembly
⑯ MDA board assembly
⑰ PRE/REC board assembly
⑱ Mechanism assembly

1.3.2 Disassembly method

STEP /LOC NO.	PART	Fig. No.	REMOVAL	
			UNLOCK/RELEASE/ UNPLUG/UNCLAMP/ UNSOLDER	Note
①	UPPER CASE	Fig.1-3-1	(S1a), (S2b), (S1c), (S1d) (S1e), (L1a), 2(L1b), (L1c) CONNECTOR Ⓐ	Note 1b Note 1c
②	FRONT COVER ASSY		(S1b), 2(S1e) CONNECTOR Ⓑ, Ⓒ GRIP BELT	Note 1a Note 1b
③/④/⑤	UPPER CASE ASSY (INCL. E. VF UNIT, MONITOR ASSY)	Fig.1-3-2	3(S2a), (S2b), (S2c), 2(S2d) CONNECTOR Ⓓ, Ⓔ MULTI MEDIA CARD	Note 2
④	E. VF UNIT	Fig.1-3-3	2(S3) CONNECTOR Ⓕ LUG WIRE	Note 3a Note 3b
⑤	MONITOR ASSY	Fig.1-3-4	2(S4), (L4) CONNECTOR Ⓖ SPACER	-
⑥	JACK BOARD ASSY	Fig. 1-3-5	(S5a), (S5b), (L5) BRACKET (JACK)	-
⑦	MONITOR BOARD ASSY		3(S5b) CONNECTOR Ⓗ SPACER, SPEAKER	Note 5a Note 5b Note 5c
⑧	DSC BOARD ASSY	Fig. 1-3-6	3(S6), (L6) CONNECTOR Ⓙ, Ⓚ, Ⓛ LUG WIRE	Note 6
⑨	BASE ASSY	Fig.1-3-7	(S7a), (S7b)	-
⑩	MAIN BOARD ASSY	Fig.1-3-8	CONNECTOR Ⓜ, Ⓝ, Ⓞ Ⓟ, Ⓠ, Ⓡ SPACER	-
⑪	OP BLOCK ASSY	Fig.1-3-9	(S9a), (S9b), (S9c) CONNECTOR Ⓢ LUG WIRE	Note 9
⑫/⑬/⑭	REAR CASE ASSY (INCL. REG BOARD ASSY)	Fig.1-3-10	(S10a), 2(S10b), (S10c) CONNECTOR Ⓣ SPEACER	-
⑬	REG BOARD ASSY	Fig.1-3-11	5(S11), CONNECTOR Ⓤ	-
⑭	FRONT BOARD ASSY	Fig.1-3-12	(S12a), (S12b), (S12c), 2(S12d) CONNECTOR Ⓥ JACK COVER	Note 12
⑮	MPL BOARD ASSY		(S12c)	Note 12b
⑯/⑰/⑱	MDA ASSY (PRE/REC BOARD ASSY INCL. MECHANISM ASSY)	Fig.1-3-13a	3(S13a), 2(L13)	Note 13a Note 13b
⑯	MDA BOARD ASSY	Fig. 1-3-13b	2(S13b) CONNECTOR Ⓦ, Ⓧ, Ⓨ	-
		Fiig. 1-3-13c	CONNECTOR Ⓩ	Note 13c
⑰	PRE/REC BOARD ASSY	Fig. 1-3-14	2(S14), CONNECTOR ⓐ SHIELD COVER (PR)	-
⑱	MECHANISM ASSY	Fig. 1-3-15	2(S15), 2(L15) BRACKET (MECHA)	-

<Note>

Note 1a : *When dismantling the front cover assembly, remove the center screw (inside) only.*

Note 1b : *When removing the cover assembly, be sure to do it while sliding the front cover assembly frontwards because the lid is stuck into the inside.*
When assembling, install the ① first and then install the ② without fail.

Note 1c : *Be careful not to break the FPC wire.*

Note 2 : *On proceeding to this work, be sure to remove the Multi media card from the set beforehand.*

Note 3a : *Be careful not to break the FPC wire.*

Note 3b : *When assembling the E. VF unit to the main frame, tighten the lug wire together with the screw.*

Note 5a : *Pay heed to the connecting point of the GND wire.*

Note 5b : *Solder the wire to the GND side of C7209 on the MONITOR board assembly.*

Note 5c : *Pay careful attention to the spacer not to lose it.*

Note 6 : *When assembling the AUDIO board assembly into the main frame, tighten the lug wire together with the screw.*

Note 9 : *Since the lug wire of the CCD board assembly is tightened together with the screw that fastens the MPL board assembly, it is required to remove the screw No. 30.*

Note 12 : *Be careful not to damage the EJECT switch.*
Be sure to hold the cassette cover assembly closed throughout this work.

Note 13a : *When removing the board assembly, be careful not to damage any part.*

Note 13b : *When disassembling pay careful attention to the part not to break it.*

Note 13c : *When assembling the board assembly into the main frame, arrange the FPC with meticulous care.*

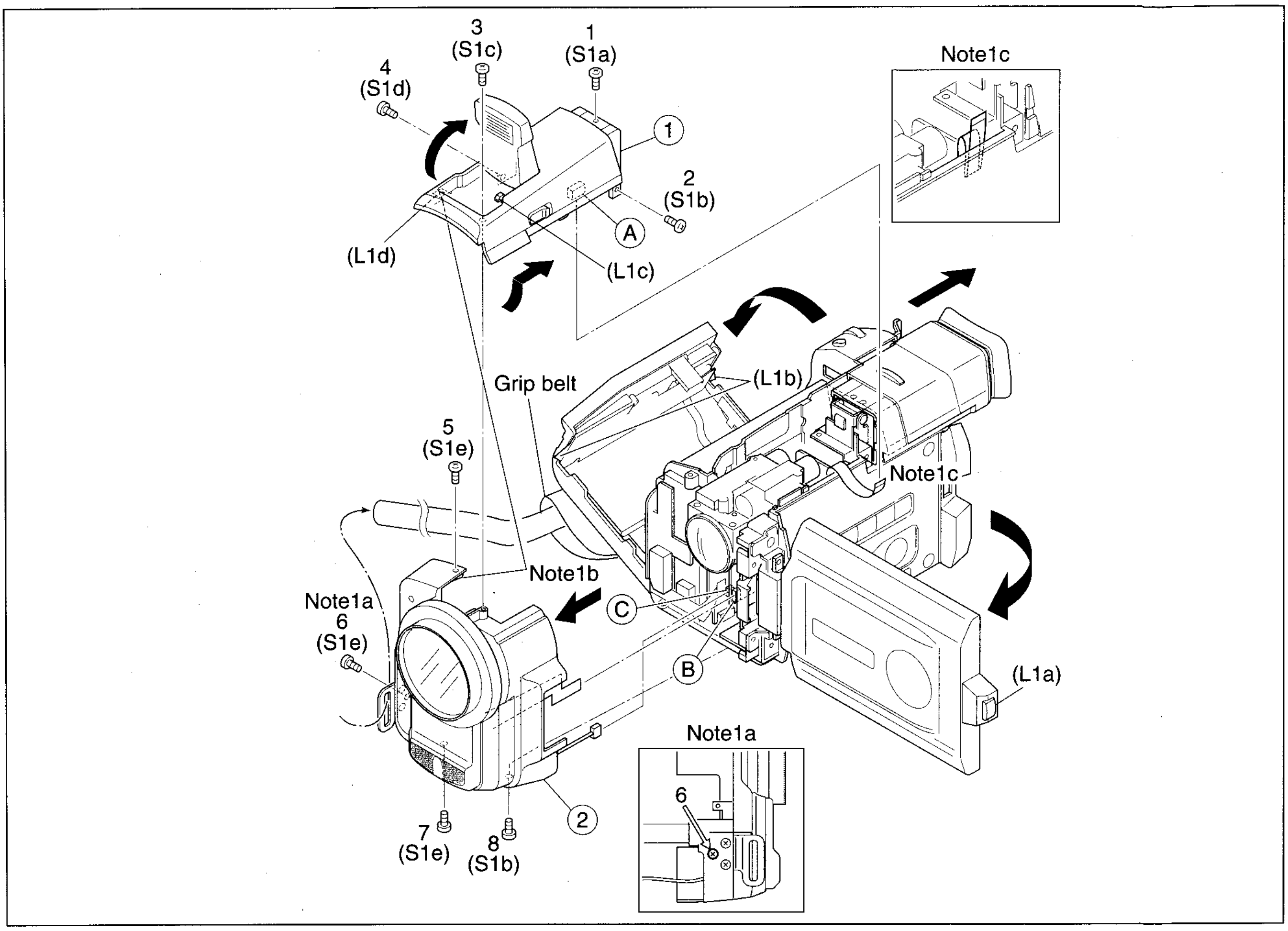

3
(S1c)
1
(S1a)
Note1c
4
(S1d)
①
2
(S1b)
Ⓐ
(L1d)
(L1c)
Grip belt
(L1b)
5
(S1e)
Note1c
Note1b
Note1a
6
(S1e)
Ⓒ
Ⓑ
(L1a)
Note1a
6
②
7
(S1e)
8
(S1b)

Fig.1-3-1

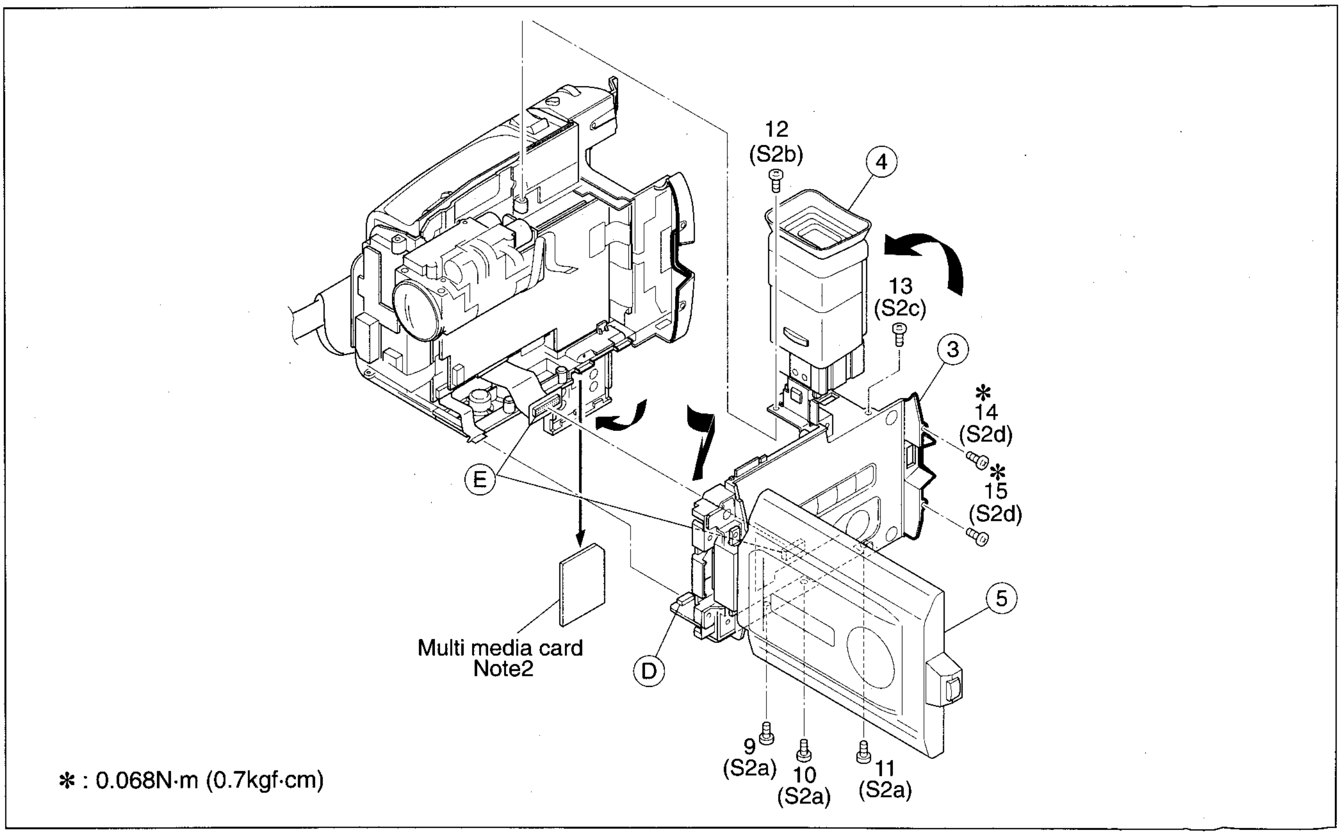

12
(S2b)
④
13
(S2c)
③
*
14
(S2d)
*
15
(S2d)
Ⓔ
⑤
Multi media card
Note2
Ⓓ
9
(S2a)
10
(S2a)
11
(S2a)
* : 0.068N·m (0.7kgf·cm)

Fig. 1-3-2

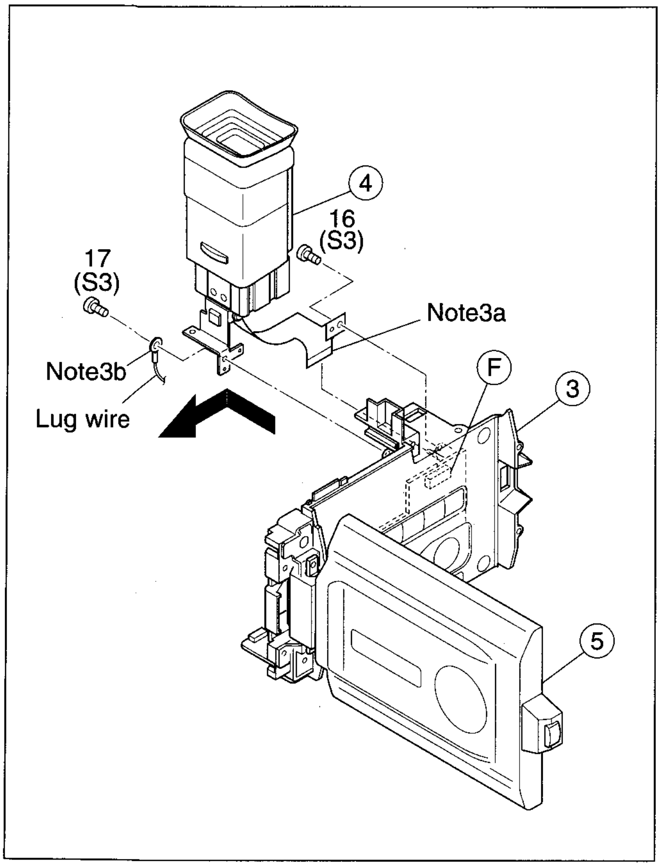
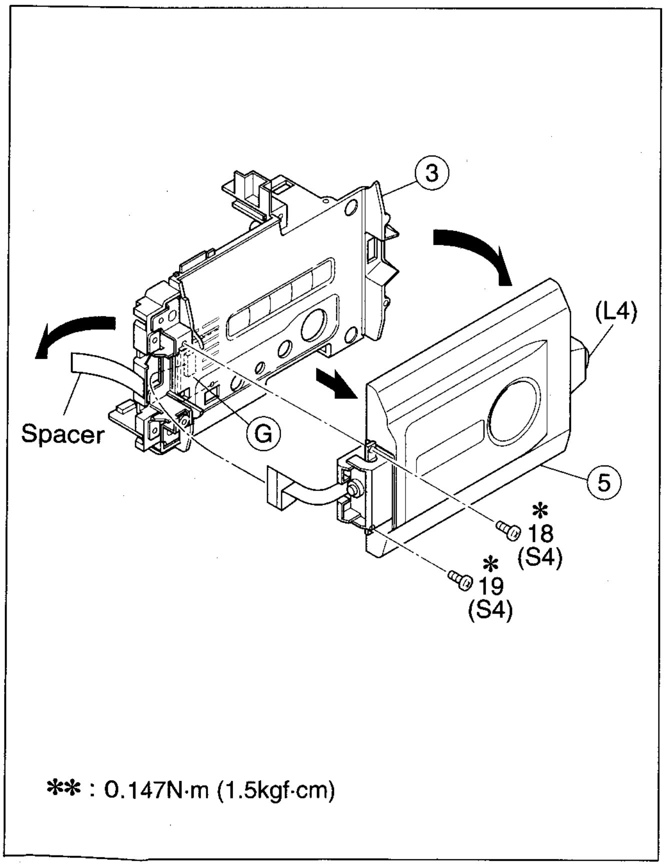

4
16
(S3)
17
(S3)
Note3a
Note3b
Lug wire
F
3
5

Fig. 1-3-3


3
(L4)
Spacer
G
5
*
18
(S4)
*
19
(S4)

** : 0.147N·m (1.5kgf·cm)

Fig. 1-3-4

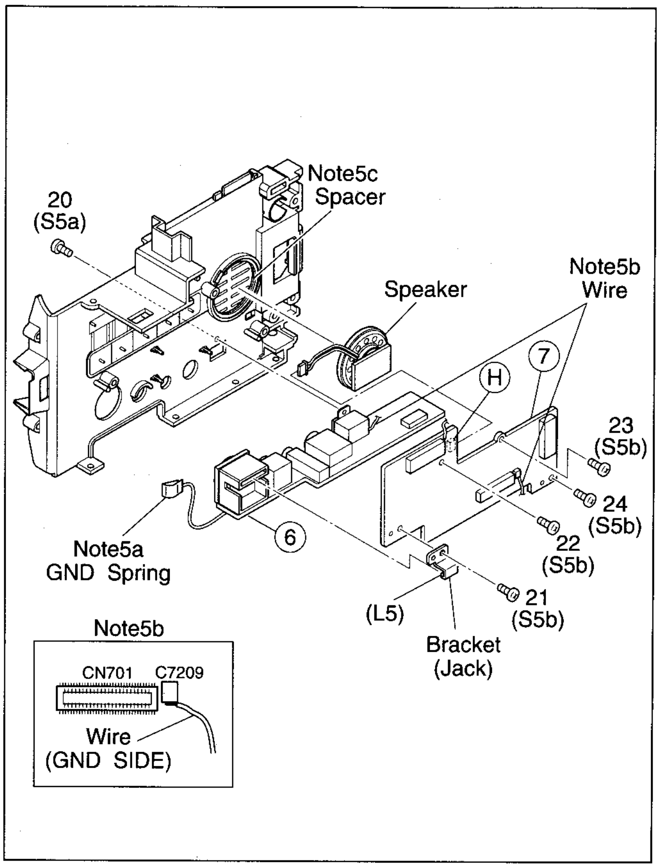

Note5c
Spacer
20
(S5a)
Speaker
Note5b
Wire
H
7
23
(S5b)
24
(S5b)
22
(S5b)
21
(S5b)
6
Note5a
GND Spring
(L5)
Bracket
(Jack)
Note5b
CN701
C7209
Wire
(GND SIDE)

Fig. 1-3-5

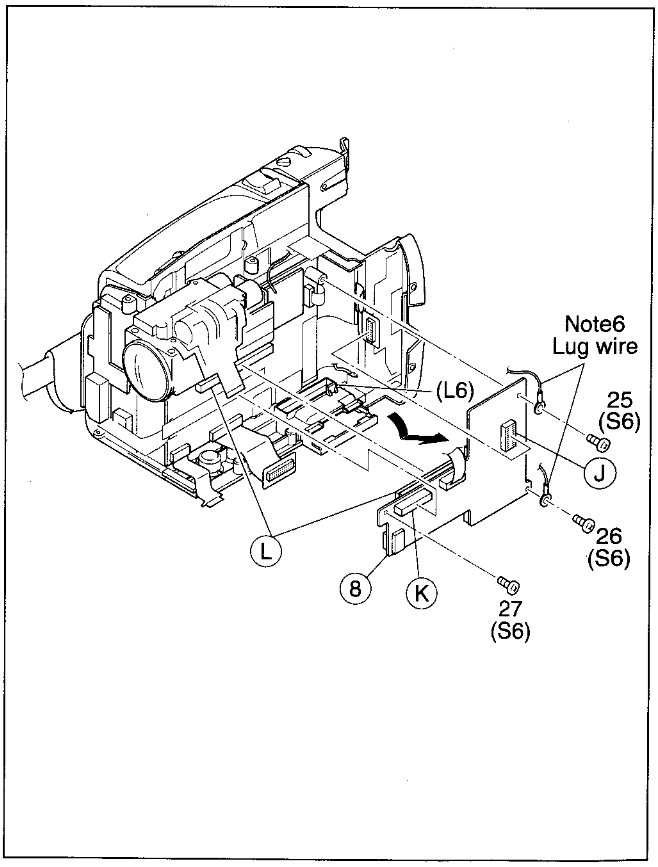
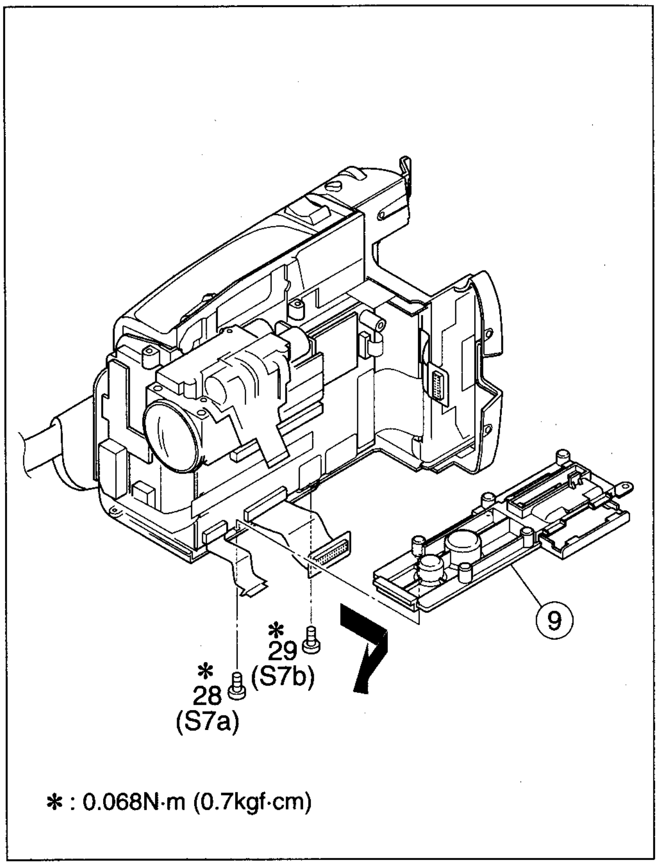
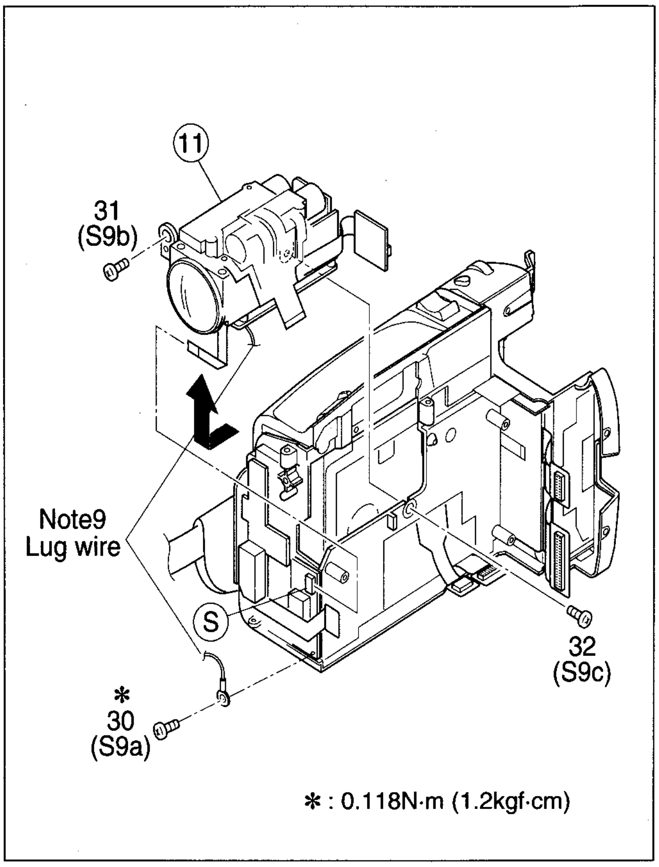

Note6
Lug wire
(L6)
25
(S6)
J
26
(S6)
L
8
K
27
(S6)

Fig. 1-3-6


9
*
29
(S7b)
*
28
(S7a)

*: 0.068N·m (0.7kgf·cm)

Fig. 1-3-7


11
31
(S9b)
Note9
Lug wire
S
*
30
(S9a)
32
(S9c)

*: 0.118N·m (1.2kgf·cm)

Fig. 1-3-9

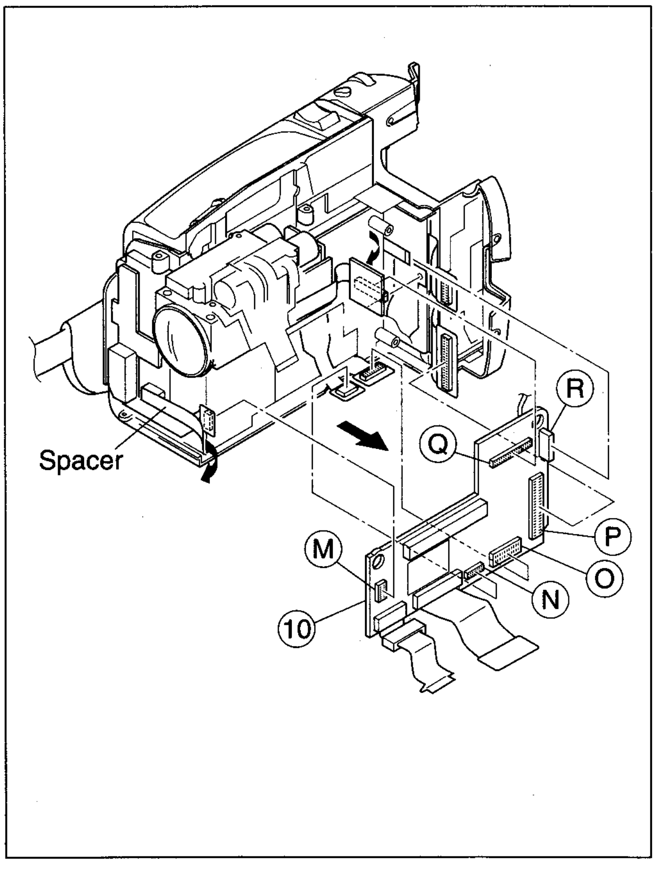
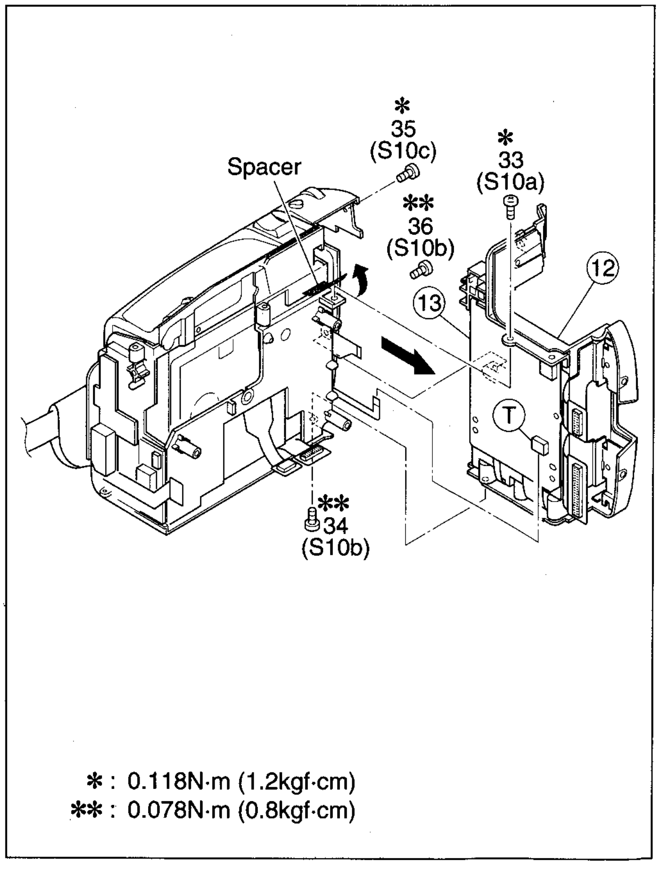
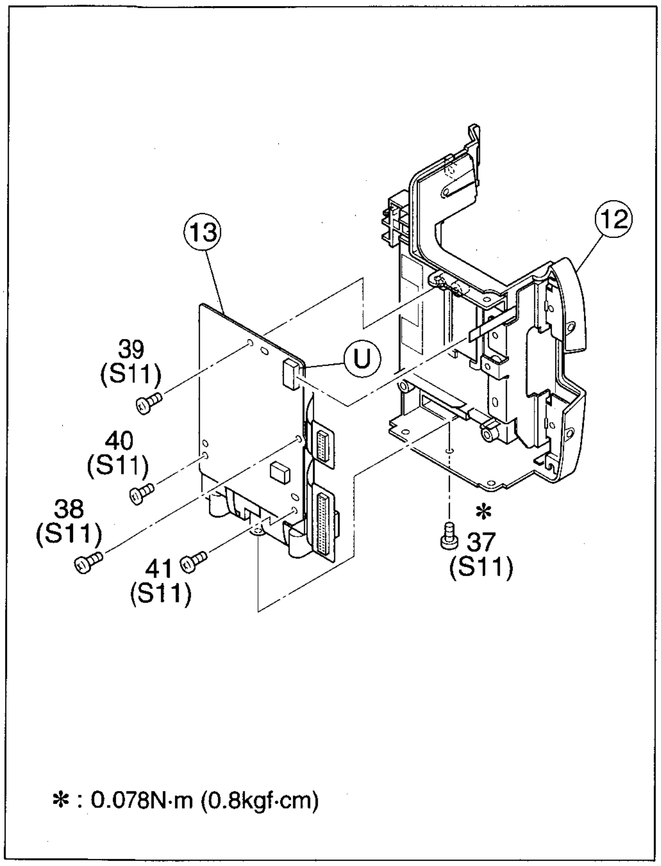

Spacer
R
Q
P
O
N
M
10

Fig. 1-3-8


*
35
(S10c)
Spacer
*
33
(S10a)
**
36
(S10b)
12
13
T
**
34
(S10b)

*: 0.118N·m (1.2kgf·cm)
**: 0.078N·m (0.8kgf·cm)

Fig. 1-3-10


⑬
⑫
39
(S11)
Ⓤ
40
(S11)
38
(S11)
41
(S11)
*
37
(S11)

*: 0.078N·m (0.8kgf·cm)

Fig. 1-3-11

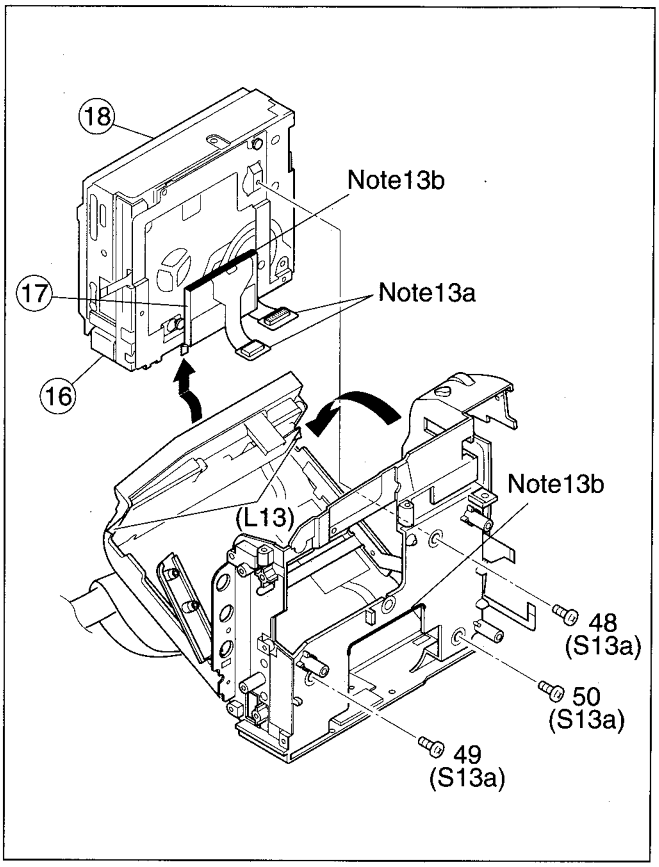
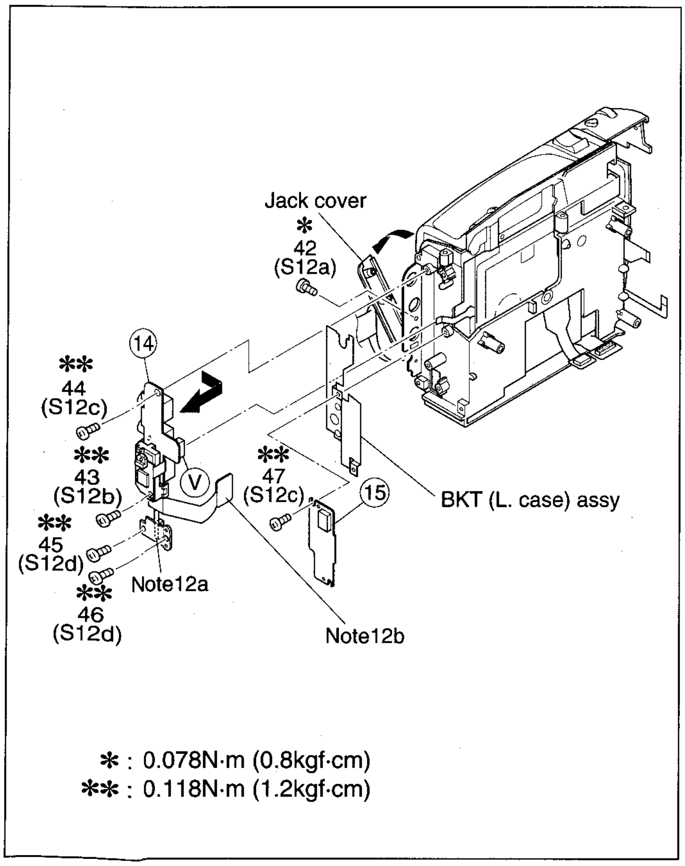

⑱
Note13b
⑰
Note13a
⑯
Note13b
(L13)
48
(S13a)
50
(S13a)
49
(S13a)

Fig. 1-3-13a


Jack cover
*
42
(S12a)
⑭
**
44
(S12c)
**
43
(S12b)
Ⓥ
**
47
(S12c)
⑮
BKT (L. case) assy
**
45
(S12d)
Note12a
**
46
(S12d)
Note12b

*: 0.078N·m (0.8kgf·cm)
**: 0.118N·m (1.2kgf·cm)

Fig. 1-3-12

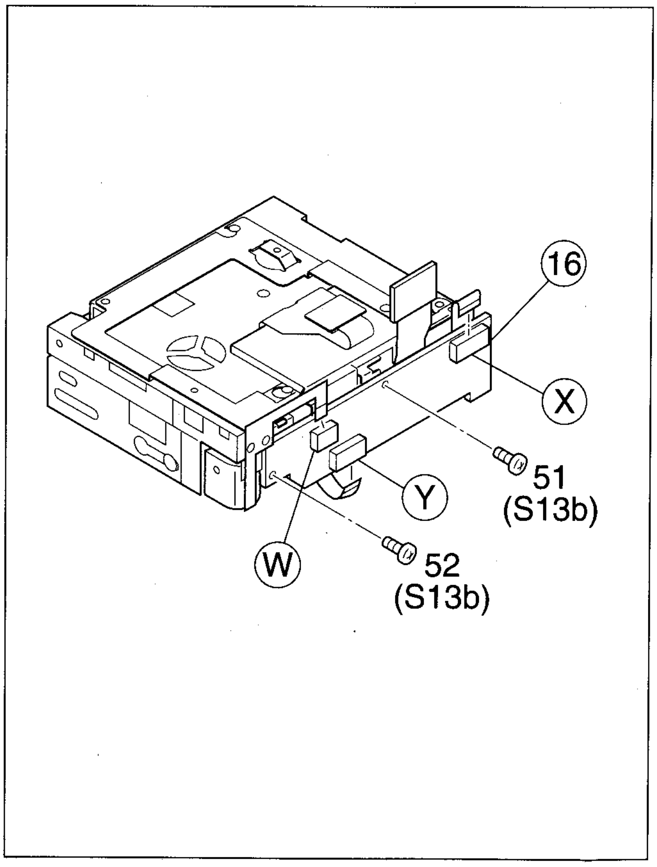

⑯
Ⓧ
Ⓨ
51
(S13b)
Ⓦ
52
(S13b)

Fig. 1-3-13b

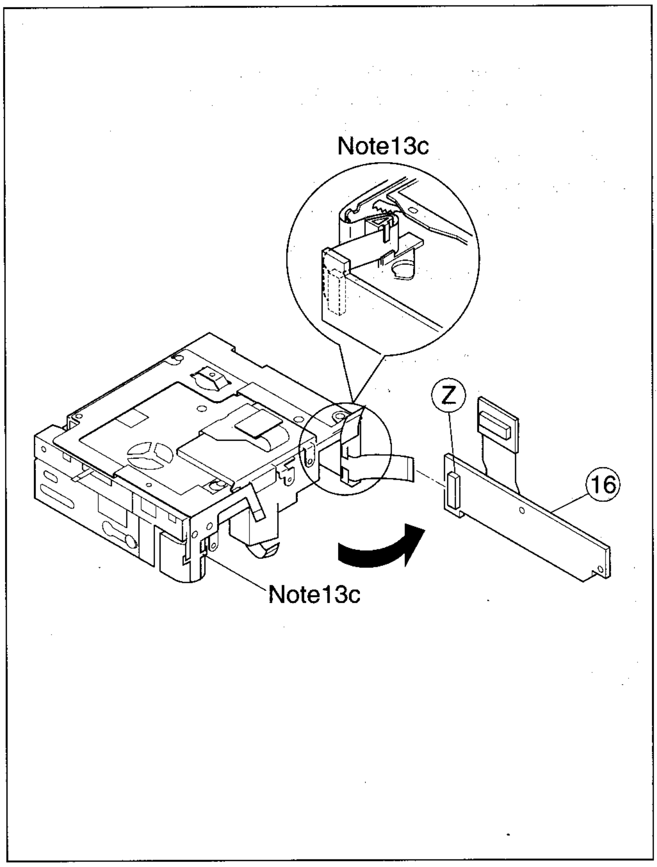

Note13c
Z
16
Note13c

Fig. 1-3-13c

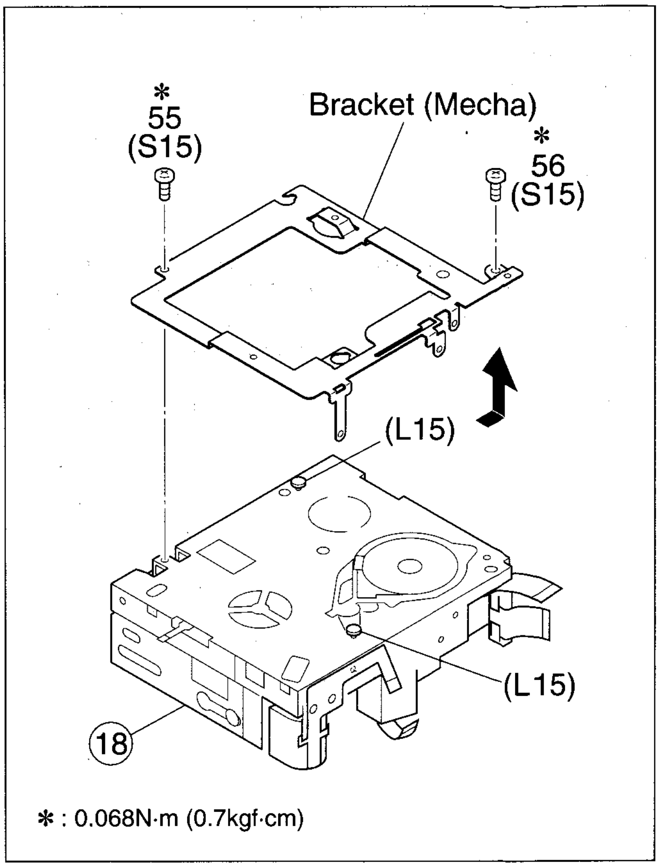

*
55
(S15)
Bracket (Mecha)
*
56
(S15)
(L15)
(L15)
18
* : 0.068N·m (0.7kgf·cm)

Fig. 1-3-15

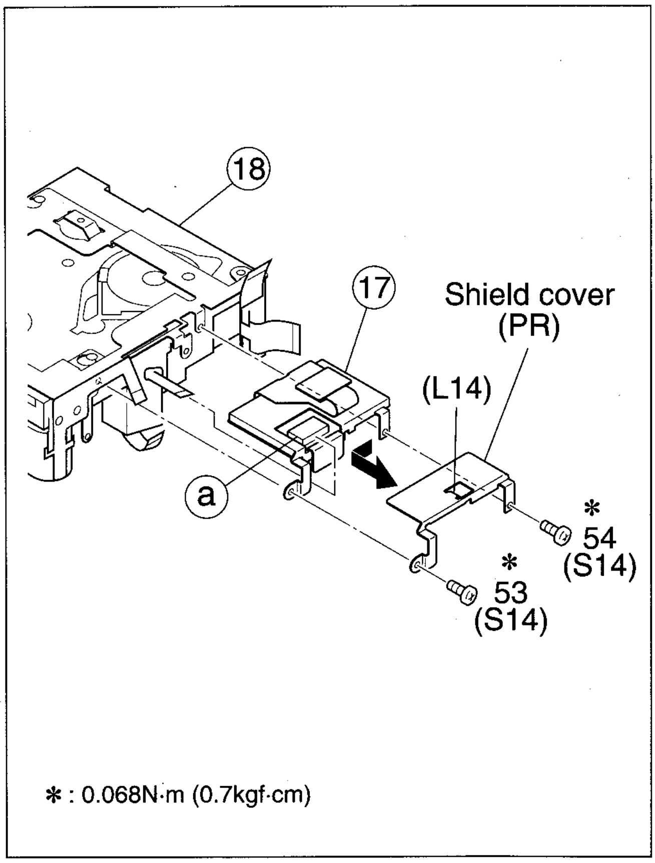

18
17
Shield cover
(PR)
(L14)
a
*
54
(S14)
*
53
(S14)
* : 0.068N·m (0.7kgf·cm)

Fig. 1-3-14

1.4 DISASSEMBLY/ASSEMBLY OF E. VF UNIT

1.4.1 E. VF unit

1. Remove the eyecup and then draw out the viewfinder (VF).
2. Remove the four screws (1 to 4) and then remove the VF case (lower).
3. Remove the VF case (upper) while extending it by one side.

Note 4e: *When assembling the VF case (upper), carefully set it so that the stud of the LCD case assembly (upper) is put in the groove of the VF case (upper). After that, check to see if the VF case slides smoothly.*

4. Remove the four screws (5 to 8) and then remove the hinge assembly.

Note 4a: *When removing the hinge assembly, pay heed to the FPC assembly not to damage it.*

5. Remove the LCD case (lower) while unhooking it by the four points (L4a).

Note 4d: *When assembling the LCD case (lower), pay heed to the FPC wire not to break it.*

Note 4c: *When assembling, carefully proceed in the work not to damage any switch.*

6. Remove the LCD assembly together with the FPC assembly.

Note 4b: *When removing the LCD assembly and FPC assembly, be very careful not to damage the FPC assembly.*

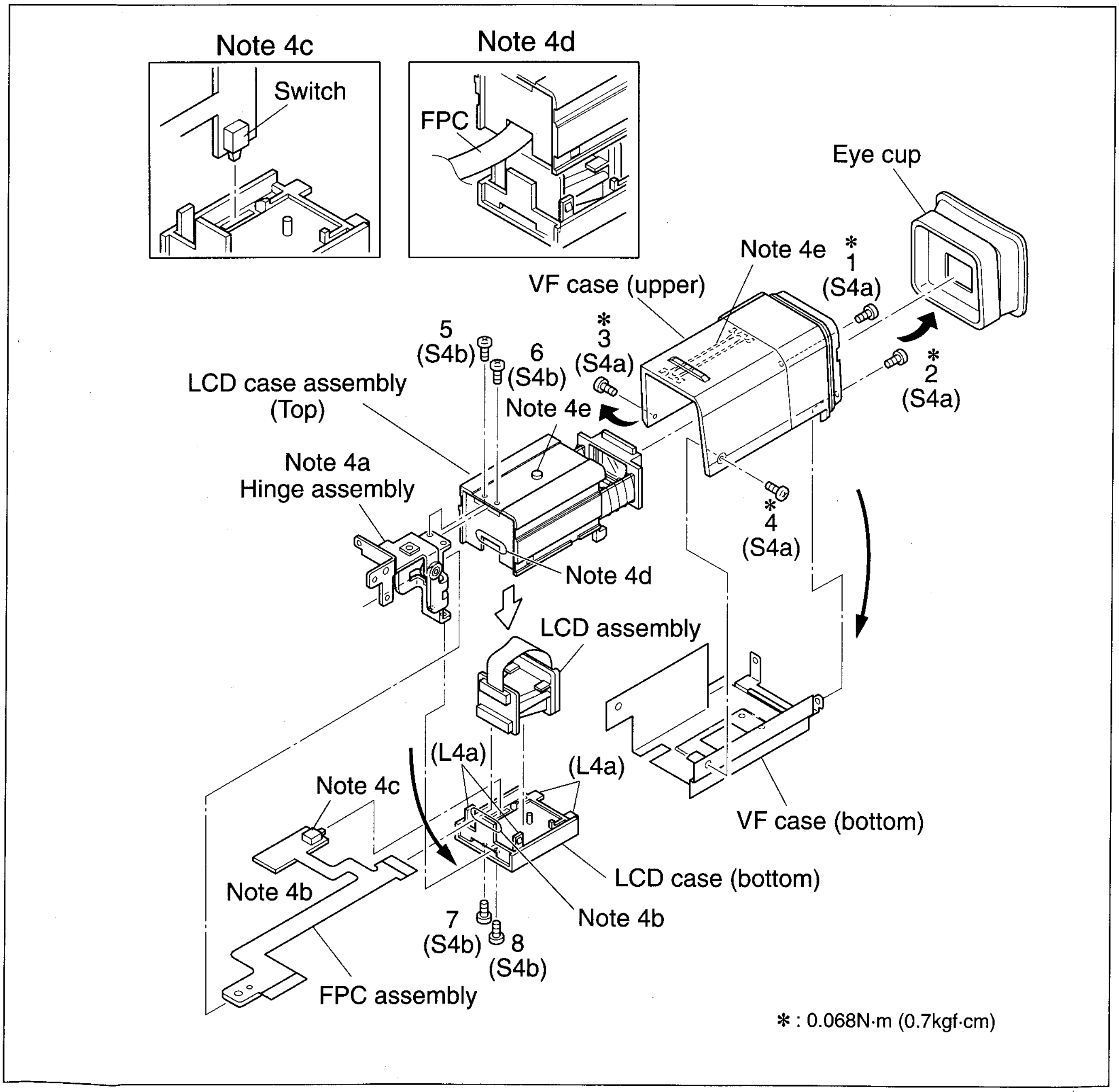

Note 4c
Switch
Note 4d
FPC
Eye cup
Note 4e
*
1
(S4a)
VF case (upper)
5
(S4b)
6
(S4b)
*
3
(S4a)
Note 4e
*
2
(S4a)
LCD case assembly
(Top)
Note 4a
Hinge assembly
*
4
(S4a)
Note 4d
LCD assembly
(L4a)
(L4a)
Note 4c
VF case (bottom)
Note 4b
LCD case (bottom)
7
(S4b)
8
(S4b)
Note 4b
FPC assembly
* : 0.068N·m (0.7kgf·cm)

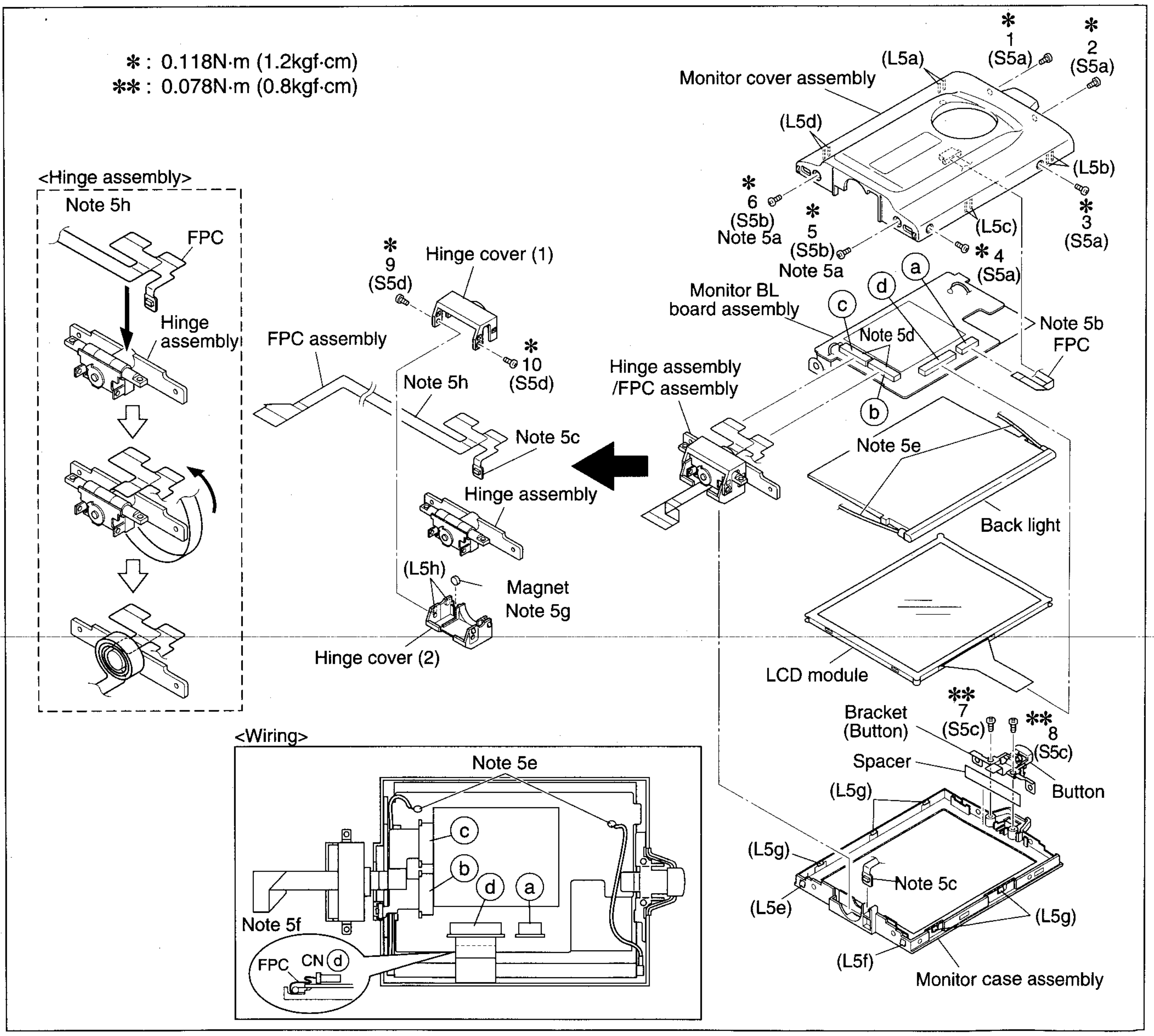
Fig. 1-4-1

1.5 DISASSEMBLY/ASSEMBLY OF MONITOR ASSEMBLY

1.5.1 Monitor assembly/Hinge assembly

1. Remove the six screws (1 to 6). While disengaging the six hooks (L5a to L5f) one after another, remove the monitor cover assembly. Then, disconnect the FPC from the connector ⓐ.
2. Remove the parts from the monitor case assembly and unlock the two connectors (ⓑ, ⓒ). While lifting the hinge assembly upwards, disconnect the FPC and then remove the hinge assembly.
3. Remove the two screws (7, 8) and the bracket (button) also.
4. Disconnect the FPC from the connector ⓓ and then remove the MONITOR board assembly and the backlight.
5. While unhooking the LCD module by the 5 points (L5g), remove the LCD module.
6. Remove the two screws (S5d). Then, remove the hinge covers (1), (2) while unhooking it by four points (L5h).
7. Remove the FPC assembly from the hinge assembly.

Note 5a: *Don't reuse the screw that was once removed, because screw locking agent was applied to it.*
Note 5b: *When removing the monitor cover assembly, pay heed to the FPC and connectors not to damage them.*
Note 5c: *When removing/reinstalling the hinge assembly, carefully proceed in the work not to damage any part.*
Note 5d: *For disconnecting the FPC from the connector, unlock the connector first and then draw out the hinge assembly together with the FPC so that it is pulled out of the connector.*
Note 5e: *The backlight is soldered to the MONITOR board assembly. When removing the backlight individually, unsolder it by two points.*
Note 5f: *Carefully arrange the FPC.*
Note 5g: *Be careful not to lose the magnet.*
Note 5h: *When reinstalling the FPC assembly, wind it on the hinge assembly by three and a half turns.*



*: 0.118N·m (1.2kgf·cm)
**: 0.078N·m (0.8kgf·cm)
<Hinge assembly>
Note 5h
FPC
Hinge assembly
* 9 (S5d)
Hinge cover (1)
FPC assembly
* 10 (S5d)
Note 5h
Note 5c
Hinge assembly
(L5h)
Magnet
Note 5g
Hinge cover (2)
* 1 (S5a)
* 2 (S5a)
(L5a)
Monitor cover assembly
(L5d)
(L5b)
* 6 (S5b) Note 5a
* 5 (S5b) Note 5a
(L5c)
* 4 (S5a)
* 3 (S5a)
Monitor BL board assembly
ⓐ
ⓓ
ⓒ
Note 5d
ⓑ
Note 5b
FPC
Hinge assembly /FPC assembly
Note 5e
Back light
LCD module
Bracket (Button)
** 7 (S5c)
** 8 (S5c)
Spacer
Button
(L5g)
(L5g)
Note 5c
(L5e)
(L5g)
(L5f)
Monitor case assembly
<Wiring>
Note 5e
ⓒ
ⓑ
ⓓ
ⓐ
Note 5f
FPC
CN ⓓ

Fig. 1-5-1

1.6 DISASSEMBLY OF OP BLOCK ASSEMBLY/CCD BOARD ASSEMBLY

1.6.1 Precautions

1. Through disassembling/reassembling work, pay the most careful attention to the CCD image sensor, optical LPF, lens and so on so as to prevent them from getting dusty, soiled, scratched on the surface. If some of them gets soiled with fingerprints, etc., wipe it out with silicone paper, clean chamois, and super cleaning cloth recommended by JVC, etc.
2. The new CCD image sensor is occasionally shipped from the factory as a protection seal is applied onto its transparent glass. If so, leave the protection seal as it is and remove it just before installing it in the OP block assembly.

1.6.2 How to remove OP block assembly and CCD board assembly

1. Remove the shield seat (OP) that secures the CCD board assembly and OP block assembly.

Note 6a: *When sticking the shield seat again after it was once removed, carefully set it as it was before.*

2. Unsolder the CCD board assembly by the 16 points (SD1).

Note 6b: *Be sure to remove the parts on the soldered side of the board assembly before unsoldering, it there is something.*

2. Remove the three screws (1 to 3) and then remove the CCD board assembly.
3. Remove the two screws (4, 5) and the CCD base assembly also.

Note 6c: *When removing the CCD base assembly, carefully proceed in the work not to remove the spacer rubber or/and optical LPF together with the CCD base assembly.*

Note 6d: *Don't replace the CCD image sensor individually but replace it in a set of the CCD base assembly.*

1.6.3 How to reassemble OP block assembly/CCD board assembly

1. Install the optical LPF in the OP block assembly as the spacer rubber is fitted to the CCD side of the optical LPF.
2. Paying heed to the spacer rubber not to move it out of the right position, set the CCD base assembly and fasten it together with the spacer rubber with the two screws (4, 5).
3. Fasten the CCD board assembly with the three screws (1 to 3) first. Then, set it in the CCD base assembly and secure them by soldering at the 16 points (SD1).

Note 6e: *If some part was removed before removing the board assembly, restore it to the original place taking care not to make any shortcircuit.*

4. Stick the shield seat (OP) to the CCD board assembly and OP block assembly to secure them.

1.6.4 Replacement of service parts

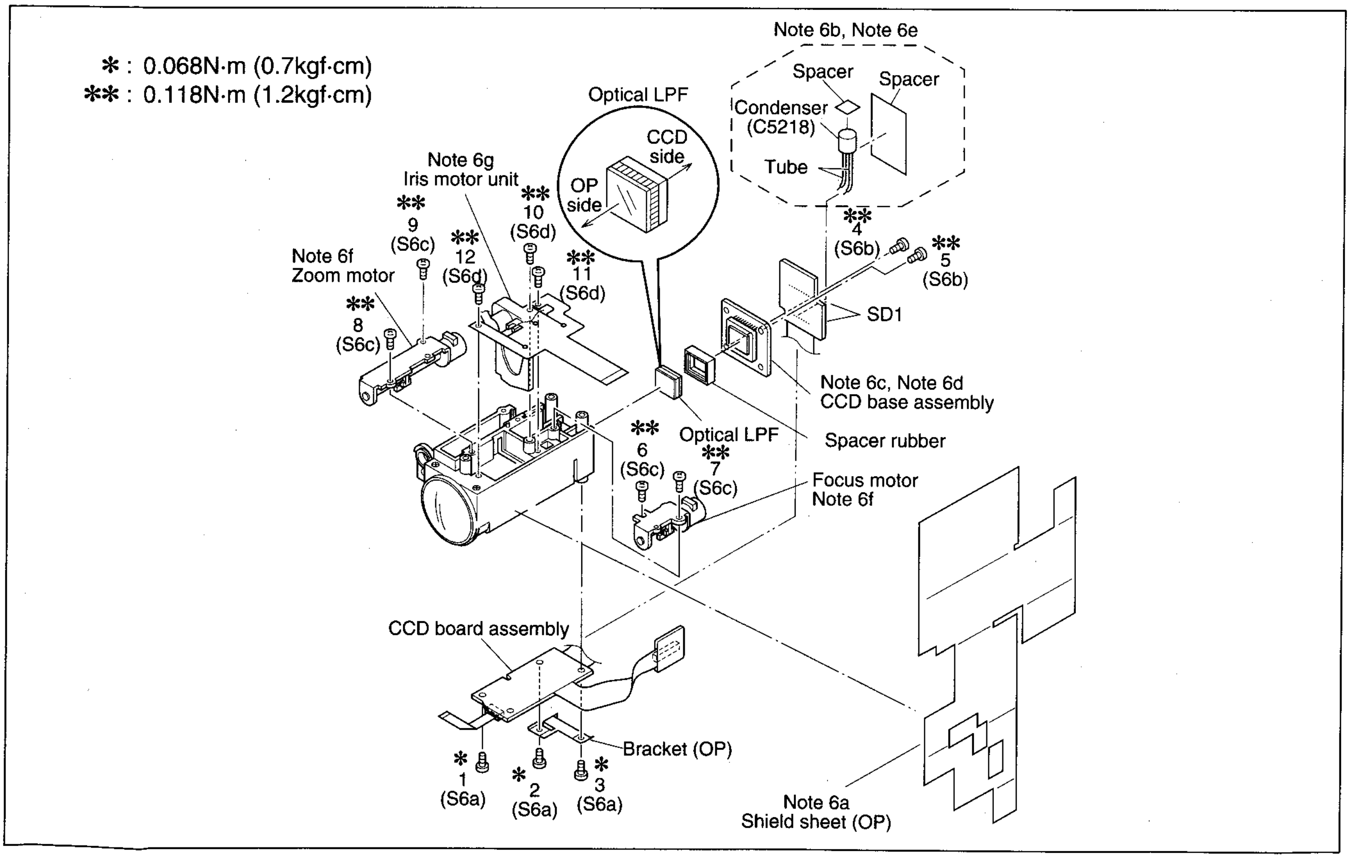
Service parts to be supplied for the OP block assembly are as follows.

When replacing a part, be very careful not to get the FPC wire broken or damaged by overheating caused by soldering.

1. Focus motor
2. Zoom motor
3. Iris motor unit

Note 6f: *When soldering the wire of a new focus motor/zoom motor after replacement, be sure to keep the tip of a soldering iron approximately 1 mm apart from the terminal.*

Note 6g: *The iris motor unit includes the FPC assembly and the two sensors.*



* : 0.068N·m (0.7kgf·cm)
** : 0.118N·m (1.2kgf·cm)
Note 6b, Note 6e
Spacer
Spacer
Condenser
(C5218)
Tube
Optical LPF
CCD side
OP side
Note 6g
Iris motor unit
** 10 (S6d)
** 9 (S6c)
** 12 (S6d)
** 11 (S6d)
Note 6f
Zoom motor
** 8 (S6c)
** 4 (S6b)
** 5 (S6b)
SD1
Note 6c, Note 6d
CCD base assembly
Spacer rubber
** 6 (S6c)
Optical LPF
** 7 (S6c)
Focus motor
Note 6f
CCD board assembly
Bracket (OP)
* 1 (S6a)
* 2 (S6a)
* 3 (S6a)
Note 6a
Shield sheet (OP)

Fig. 1-6-1

LIST<DISASSEMBLY>

▨ : Connector of removed component during disassembly

No.	Fig No.	Symbol	Connected point					Pin No.	Class	Note / Patch cord
1	Fig.1-3-1	Ⓐ	STROBE UNIT	-	←→	DSC PWB	CN207	12PIN	FPC	NC
2	Fig.1-3-1	Ⓑ	DSC PWB	CN205	←→	LENS SHUTTER UNIT	-	8PIN	FPC	NC
3	Fig.1-3-1	Ⓒ	DSC PWB	CN204	←→	MIC UNIT	-	3PIN	WIRE	NC
4	Fig.1-3-2	Ⓓ	JACK PWB	CN601	←→	MAIN PWB	CN106	33PIN	FPC	YTU94109-33/YTU94129A-33
5	Fig.1-3-2	Ⓔ	MONITOR PWB	CN701	←→	MAIN PWB	CN107	57-60PIN	(B-B)	YTU94109-57/YTU94129A-57
6	Fig.1-3-3	Ⓕ	MONITOR PWB	CN702	←→	VF BL PWB	CN7551	22-20PIN	FPC	YTU94074-22/YTU94077-22
7	Fig.1-3-4	Ⓖ	MONITOR PWB	CN703	←→	MONITOR BL PWB	CN7501/CN7502	39PIN(18+18+3)	FPC	DIRECT
8	Fig.1-3-5	Ⓗ	MONITOR PWB	CN704	←→	SPEAKER	-	2PIN	WIRE	DIRECT
9	Fig.1-3-6	Ⓙ	DSC PWB	CN203	←→	REG PWB	CN302	30PIN	(B-B)	DIRECT
10	Fig.1-3-6	Ⓚ	DSC PWB	CN206	←→	OP BLOCK	-	24PIN	FPC	YTU94074-24/YTU94077-24
11	Fig.1-3-6	Ⓛ	DSC PWB	CN202	←→	MAIN PWB	CN104	130PIN	B-B	YTU94151A-130
12	Fig.1-3-8	Ⓜ	MAIN PWB	CN105	←→	FRONT PWB	CN501	30PIN	(B-B)	DIRECT
13	Fig.1-3-8	Ⓝ	MAIN PWB	CN101	←→	PRE/REC PWB	CN902	20PIN	(B-B)	DIRECT
14	Fig.1-3-8	Ⓞ	MAIN PWB	CN102	←→	MDA PWB	CN405	40PIN	(B-B)	DIRECT
15	Fig.1-3-8	Ⓟ	MAIN PWB	CN108	←→	REG PWB	CN301	80PIN	(B-B)	DIRECT
16	Fig.1-3-8	Ⓠ	MAIN PWB	CN103	←→	CCD PWB	CN801	60PIN	(B-B)	DIRECT
17	Fig.1-3-8	Ⓡ	MAIN PWB	CN109	←→	POWER UNIT	-	12PIN	FPC	YTU94074-12/YTU94077-12
18	Fig.1-3-9	Ⓢ	VCO PWB	CN5401	←→	CCD PWB	CN803	6PIN	FPC	YTU94074-6/YTU94077-6
19	Fig.1-3-10	Ⓣ	REG PWB	CN305	←→	ZOOM UNIT	-	6PIN	FPC	YTU94074-6/YTU94077-6
20	Fig.1-3-11	Ⓤ	REG PWB	CN304	←→	DECK OPE	-	6PIN	FPC	YTU94074-6/YTU94077-6
21	Fig.1-3-12	Ⓥ	FRONT PWB	CN502	←→	ROTARY ENCODER	-	6PIN	FPC	YTU94074-6/YTU94077-6
22	Fig.1-3-13b	Ⓦ	MDA PWB	CN404	←→	LOADING MOTOR	-	6PIN	FPC	DIRECT
23	Fig.1-3-13b	Ⓧ	MDA PWB	CN402	←→	CAPSTAN MOTOR	-	18PIN	FPC	DIRECT
24	Fig.1-3-13b	Ⓨ	MDA PWB	CN403	←→	DRUM MOTOR	-	11PIN	FPC	DIRECT
25	Fig.1-3-13c	Ⓩ	MDA PWB	CN401	←→	SENSOR	-	15PIN	FPC	YTU94074-15/YTU94077-15
26	Fig.1-3-14	ⓐ	PRE/REC PWB	CN901	←→	HEAD	-	8PIN	FPC	DIRECT
27	-	-	REG PWB	CN303	←→	JIG CONN.	-	30PIN	B-B	YTU93102A
28	Fig.1-5-1	ⓐ	MONITOR BL PWB	CN7504	←→	DIAL PWB	CN1301	6PIN	FPC	-
29	Fig.1-5-1	ⓑ	MONITOR BL PWB	CN7502	←→	MONITOR BL PWB	CN703	18-39PIN	FPC	-
30	Fig.1-5-1	ⓒ	MONITOR BL PWB	CN7501	←→	MONITOR BL PWB	CN703	18-39PIN	FPC	-
31	Fig.1-5-1	ⓓ	MONITOR BL PWB	CN7503	←→	LCD MODULE	-	24PIN	FPC	-

Table 1-7-1

1.8 CONNECTION OF CONNECTORS (PATCH CORDS)

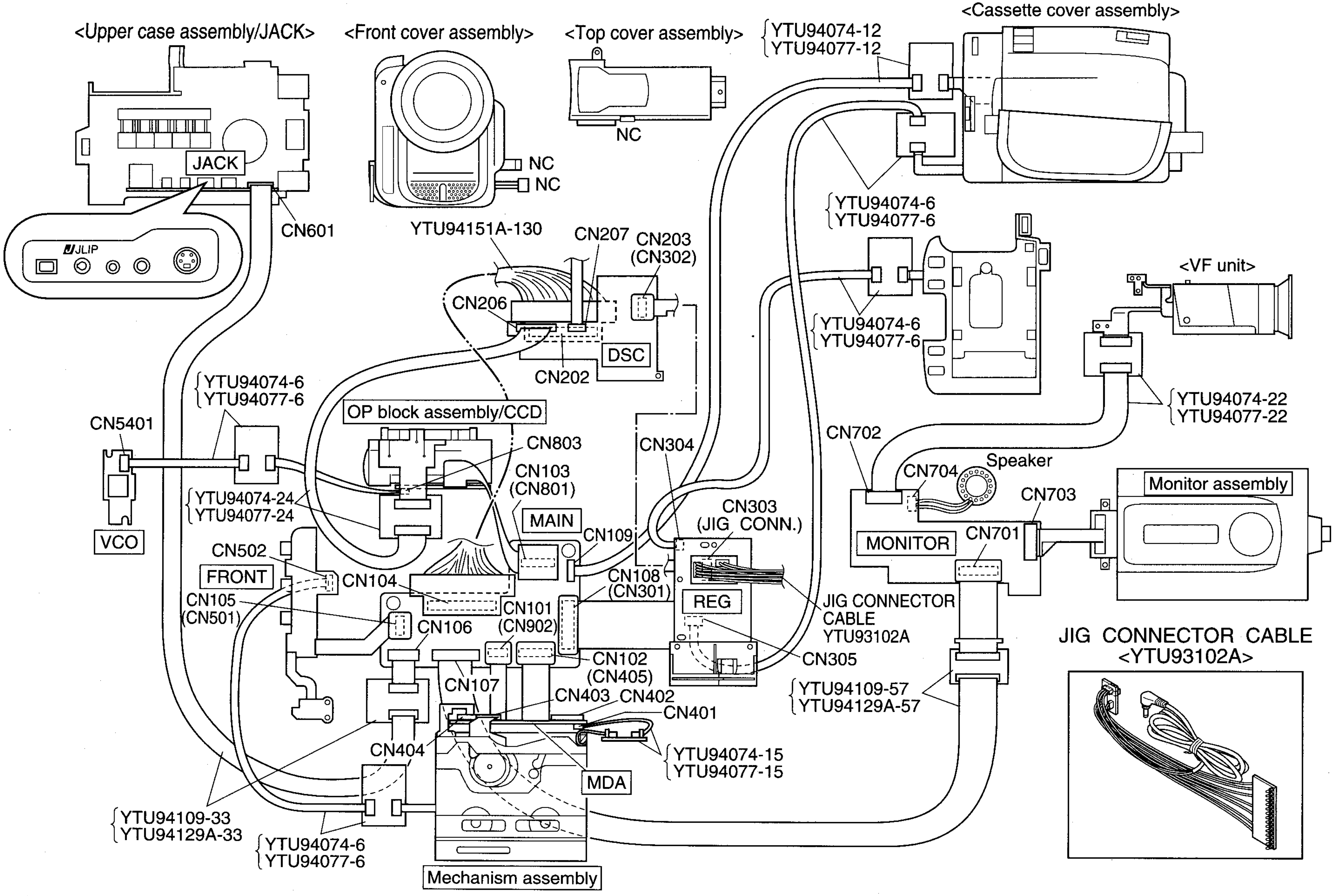

<Upper case assembly/JACK>
<Front cover assembly>
<Top cover assembly>
YTU94074-12
YTU94077-12
<Cassette cover assembly>
JACK
JLIP
NC
NC
NC
CN601
YTU94151A-130
CN207
CN203
(CN302)
YTU94074-6
YTU94077-6
CN206
<VF unit>
YTU94074-6
YTU94077-6
DSC
CN202
YTU94074-6
YTU94077-6
YTU94074-22
YTU94077-22
OP block assembly/CCD
CN5401
CN803
CN304
CN702
CN103
(CN801)
CN704
Speaker
YTU94074-24
YTU94077-24
MAIN
CN303
(JIG CONN.)
CN703
Monitor assembly
VCO
CN109
MONITOR
CN701
CN502
FRONT
CN104
CN108
(CN301)
CN105
(CN501)
CN101
(CN902)
REG
JIG CONNECTOR
CABLE
YTU93102A
CN106
JIG CONNECTOR CABLE
<YTU93102A>
CN102
(CN405)
CN305
CN107
CN403
CN402
YTU94109-57
YTU94129A-57
CN401
CN404
YTU94074-15
YTU94077-15
MDA
YTU94109-33
YTU94129A-33
YTU94074-6
YTU94077-6
Mechanism assembly

Fig. 1-8-1

1.9 HOW TO TAKE OUT CASSETTE TAPE

If the cassette tape cannot be ejected out of the cassette housing because of some electrical failure, take it out manually in the way mentioned below.

From viewpoints of workability and reliability, it is recommended to dismantle the covers and exterior components so that the cassette tape can be taken out from the cassette housing without trouble, because the following is an emergency measure to the end.

1. Disconnect the power source (battery, DC cord) from the set.
2. Open the cassette cover and remove the four screws from both sides.

Note: *Don't reuse the screw that was once removed, because screw locking agent was applied to the tip of the respective screws. Be sure to use new screws when refitting the cassette cover to the set.*

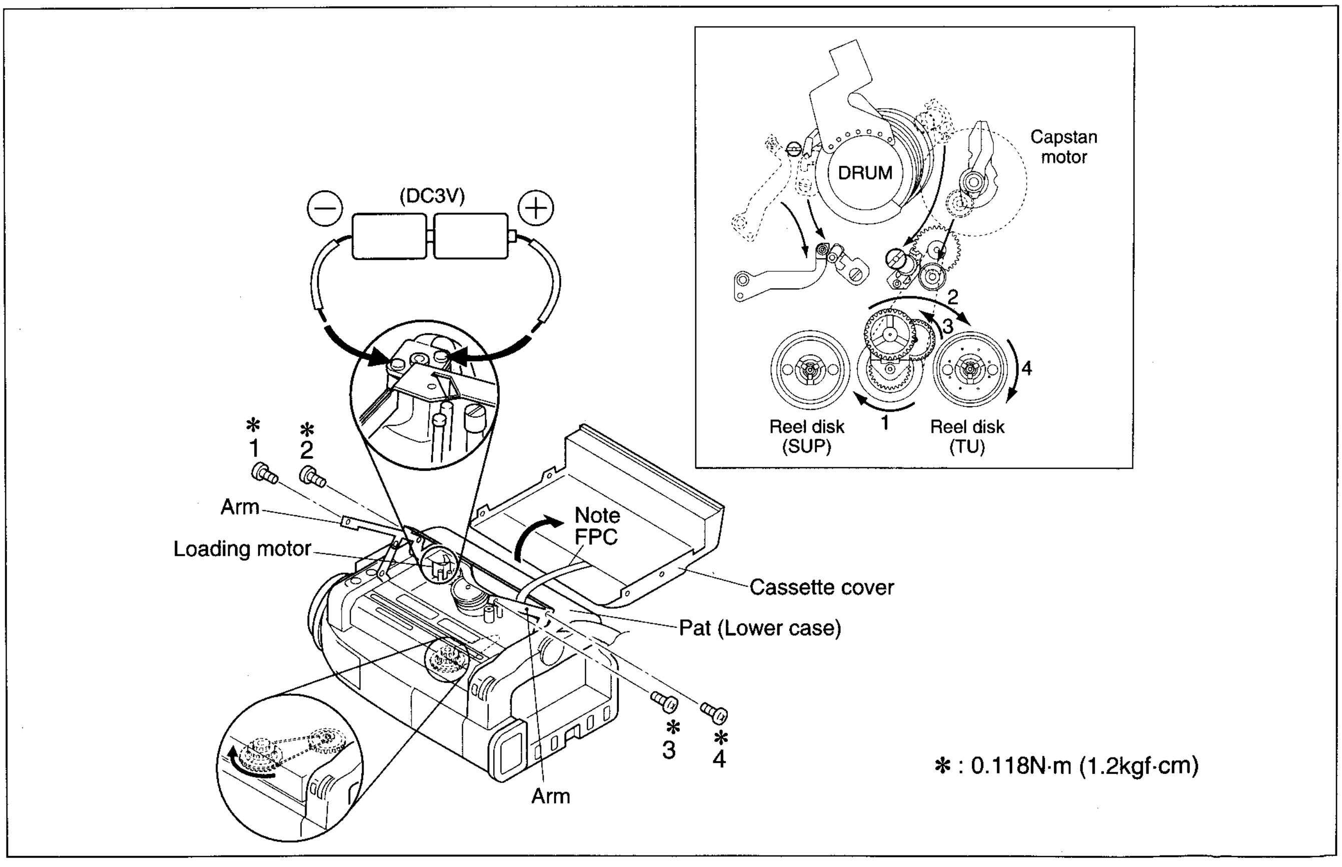
If the exterior component (lower case assembly in this case) is removed for taking out the cassette tape, it is needless to remove those screws.

3. Detach the cassette cover from the arms, and open it to the full extent paying heed to the FPC.

Note: *Pay careful attention to the FPC not to break its wire and not to damage itself, because the FPC is connected between the cassette cover and main body.*

4. Supply 3 V DC to the electrodes of the loading motor in order to slide the slide deck assembly frontwards, and stop the power supply when both the pole bases come into the unloading status inside the tape. Be careful not to damage or soil the tape with grease, etc., because the tape has not been wound up in this condition. If unloading operation continues after both the pole bases have returned inside the tape, the mechanism enters the eject mode and the cassette housing assembly is raised up. Be very careful not to get the mechanism to fall into such the situation, for, such the status may damage the tape because the slack part of the tape may be possibly caught in the cassette lid. After the cassette cover is opened, hold it remaining open with adhesive tape or the like so that it does not shut down as the cassette housing assembly is raised up. (Refer to Fig. 1-9-1)
5. Take in the slack of the tape by turning the center gear assembly with a sharp-pointed thing (for example, the chip IC replacing jig, etc.) in the direction of the arrow. Be careful not to damage the tape during winding.

   If the tape cannot be wound up by turning the center gear assembly, it is caused by the wrong mechanism mode in which the idler arm assembly and reel disk assembly are badly engaged with each other. In such the case, shift the mechanism mode so as to slightly return to the loading direction and fine adjust it.
6. Make sure that the slack of the tape is completely taken up, and make the mechanism continue unloading mode until it reaches the eject position. Then, take out the cassette tape.
7. After taking the cassette tape out of the cassette housing, check to see if the tape is not soiled with grease, etc. At the same time, check the mechanism assembly, particularly the tape transport system, if there is nothing soiled.



* : 0.118N·m (1.2kgf·cm)

Fig. 1-9-1

<CABINET(DECK/CAMERA/MECHANISM)>

Symbol No. →	①/②								③/④/⑤							④		⑤	
Removing order of screw →	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Place to stick screw →																		*	*
Reference drawing →	Fig.1-3-1								Fig.1-3-2							Fig.1-3-3		Fig.1-3-4	
Screw tightening torque →	I								I	I	I	I	I	II	II	I		III	

Symbol No. →	⑥	⑦				⑧			⑨		⑩	⑪			⑫/⑬				⑬				
Removing order of screw →	20	21	22	23	24	25	26	27	28	29	–	30	31	32	33	34	35	36	37	38	39	40	41
Place to stick screw →											–												
Reference drawing →	Fig.1-3-5					Fig.1-3-6			Fig.1-3-7		Fig.1-3-8	Fig.1-3-9			Fig.1-3-10				Fig.1-3-11				
Screw tightening torque →	I					I			II		–	IV	I		IV	V	IV	V	V	I			

Symbol No. →	⑭					⑮	⑯/⑰/⑱			⑯		⑯	⑰		⑱	
Removing order of screw →	42	43	44	45	46	47	48	49	50	51	52	–	53	54	55	56
Place to stick screw →												–	Fig.1-3-14		Fig.1-3-15	
Reference drawing →	Fig.1-3-12						Fig.1-3-13a			Fig.1-3-13b		Fig.1-3-13c				
Screw tightening torque →	V	IV	IV	IV	IV	IV	I	I	I	I		–	II		II	

<VF UNIT>

	VF CASE(U/B)				LCD CASE(U/B)/HINGE			
Removing order of screw →	1	2	3	4	5	6	7	8
Place to stick screw →					*	*	*	*
Reference drawing →	Fig.1-4-1							
Screw tightening torque →	II				I			

<MONITOR>

	MONITOR COVER						BRACKET		HINGE	
Removing order of screw →	1	2	3	4	5	6	7	8	9	10
Place to stick screw →					*	*				
Reference drawing →	Fig.1-5-1									
Screw tightening torque →	IV						V		IV	

<OP BLOCK>

	CCD			CCD BASE		FOCUS M		ZOOM M		IRIS M		
Removing order of screw →	1	2	3	4	5	6	7	8	9	10	11	12
Place to stick screw →												
Reference drawing →	Fig.1-6-1											
Screw tightening torque →	II			IV								

M:MOTOR

<CASSETTE COVER ASSY>

	CASSETTE COVER ASSY			
Removing order of screw →	1	2	3	4
Place to stick screw →	*	*	*	*
Reference drawing →	Fig.1-9-1			
Screw tightening torque →	IV			

<NOTE>

1) * : *Don't reuse the screw, because screw lock bond was applied to them.*

2) *Pay careful attention to tightening torque for each screw.*

I : 0.098N·m(1.0kgf·cm)
II : 0.068N·m(0.7kgf·cm)
III : 0.147N·m(1.5kgf·cm)
IV : 0.118N·m(1.2kgf·cm)
V : 0.078N·m(0.8kgf·cm)

Fig. 1-10-1

1.11 EMERGENCY DISPLAY

LCD display	Emergency mode	Details	Possible cause
E01	LOADING	In the case the encoder position is not shifted to the next point though the loading motor has rotated in the loading direction for 4 seconds or more. This error is defined as [E01].	1. The mechanism is locked during mode shift. 2. The mechanism is locked at the mechanism loading end, because the encoder position is skipped during mechanism mode shift. 3. No power is supplied to the loading MDA.
E02	UNLOADING	n the case the encoder position is not shifted to the next point though the loading motor has rotated in the unloading direction for 4 seconds or more. This error is defined as [E02].	1. The mechanism is locked during mode shift. 2. The mechanism is locked at the mechanism loading end, because the encoder position is skipped during mechanism mode shift.
E03	TU & SP REEL FG	IIn the case no REEL FG is produced for 4 seconds or more in the capstan rotation mode after loading was complete, the mechanism mode is shifted to STOP with the pinch roller set off. This error is defined as [E03]. However, no REEL EMG is detected in the SLOW/STILL mode.	1. The idler gear does not engage with the reel disk well. 2. Though the idler gear and reel disk are engaged with each other, the tape is not wound because of overload to the mechanism. 3. No FG pulse is output from the reel sensor. 4. No power is supplied to the reel sensor. 5. Tape transport operation takes place with a cassette having no tape inside. 6. The tape slackens and no pulse is produced until the slack is taken up and the tape comes into the normal status.
E04	DRUM FG	In the case there is no DRUM FG input in the drum rotation mode for 4 seconds or more. This error is defined as [E04], and the mechanism mode is shifted to STOP with the pinch roller set off.	1. The drum cannot be started or drum rotation is stopped because tape transport load is too high. 1) Tape tension is extremely high. 2) The tape is damaged or soiled with grease, etc. 2. The DRUM FG signal is not received by the syscon CPU. 1) Disconnection in the middle of the signal line. 2) Failure of the DRUM FG pulse generator (hall element). 3. No drum control voltage is suppliedto the MDA. 4. No power is supplied to the DRUM MDA.
E05	–	–	–
E06	CAPSTAN FG	In the case no CAPSTAN FG is produced in the capstan rotation mode for 2 seconds or more. This error is defined as [E06], and the mechanism mode is shifted to STOP with the pinch roller set off. However, no CAPSTAN EMG is detected in the STILL/FF/REW mode.	1. The CAPSTAN FG signal is not received by the syscon CPU. 1) Disconnection in the middle of the signal line. 2) Failure of the CAPSTAN FG pulse generator (MR element). 2. No capstan control voltage is supplied to the MDA. 3. No power is supplied to the CAPSTAN MDA. 4. The capstan cannot be started or capstan rotation is stopped because tape transport load is too high. 1) Tape tension is extremely high. (Mechanical locking) 2) The tape is damaged or soiled with grease, etc. (Tape tangling occurs, etc.)

Table 1-11-1

(DVC_02)

SECTION 2
MECHANISM ADJUSTMENT

2.1 PRELIMINARY REMARKS ON ADJUSTMENT AND REPAIR

2.1.1 Precautions

1. When fastening parts, pay careful attention to the tightening torque of each screw. Unless otherwise specified, tighten a screw with the torque of 0.039 N·m (0.4 kgf·cm).
2. Be sure to disconnect the set from the power supply before fastening and soldering parts.
3. When disconnecting/connecting wires, be careful not to get them and their connectors damaged. (Refer to the Section 1.)
4. When replacing parts, be very careful neither to damage other parts nor to fit wrong parts by mistake.

2.1.2 Necessary jigs

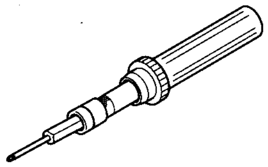
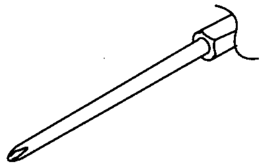
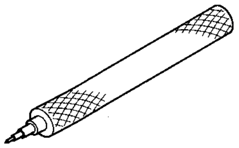
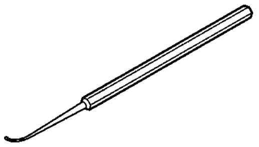
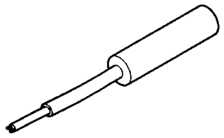
1 Torque driver YTU94088	2 Bit YTU94088-003
	
3 Slit washer fitting jig YTU94121A	4 Chip IC replacement jig PTS40844-2
	
5 Guide driver YTU94148A	
	

Fig. 2-1-1

2.1.3 Notes on procedure for disassemby/assembly

The disassembling procedure table (Table 2-2-2 on page 2-5, a part of the table is shown below for reference) shows the procedure to disassemble/reassemble mechanism parts. Carefully read the following explanation before starting actual disassembling/reassembling work. The item numbers (circled numbers) in the following explanation correspond to those appearing under respective columns of the table.

(1) Circled numbers appearing in this column indicate the order to remove parts. When reassembling, follow these numbers in the reverse order. Circled numbers in this column correspond to those appearing in drawings of this section.

(2) This column shows part names corresponding to circled numbers in the left column.

(3) The symbol (T or B) appearing in this column shows the side which the objective part is mounted on.
T = the upper side, B = the lower side

(4) Symbols appearing in this column indicate drawing numbers.

(5) This column indicates parts and points such as screws, washers, springs, and others to be removed/fitted for disassembling/reassembling the mechanism. Besides such the parts, this column occasionally indicates working points.
P = Spring
W= Washer
S = Screw
* = Lock (L), soldering (SD), shield, connector (CN), etc.

Example
- Remove (W1) = Washer W1.
- * Remove the solder at (SD1) = Point SD1.
- * Disconnect Ⓐ = Connector Ⓐ.

(6) Numbers in this column represent the numbers of notes in the text. For example, "1" means "Note 1".
(For parts that need phase adjustment after reassembling, refer to "2.2.7 Check and adjustment of mechanism phase".)

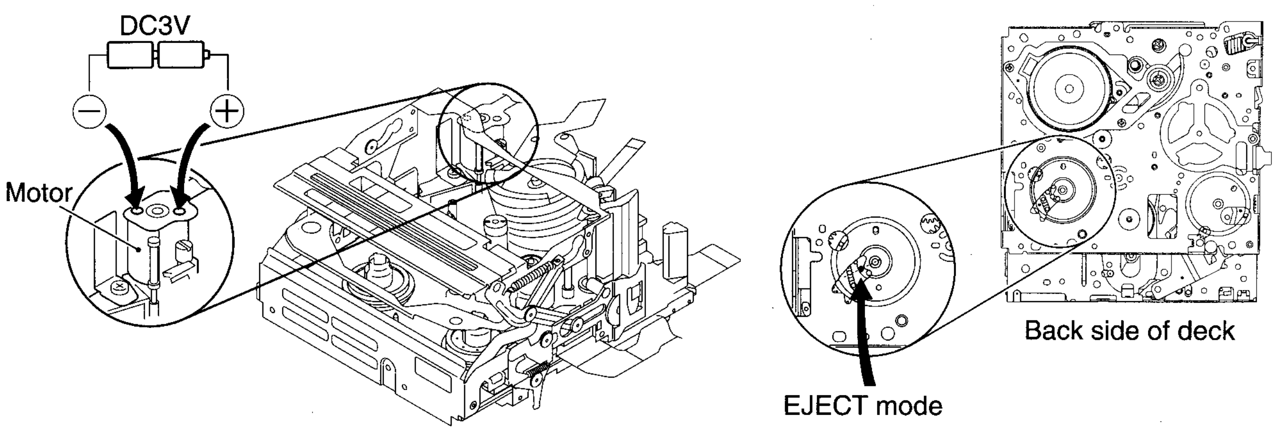
(7) This column indicates required after-disassembling/-reassembling work such as phase adjustment or mechanism adjustment.

Step	Part Name		Fig.	Point	Note	Remarks
Ⓐ Cassette housing assembly		T	1	3(S1),(L1a)-(L1d)	1a, 1b, 1c, 1d	Adjustment
(2a)	Reel disk (SUP) assembly	T	2	(W2)	2a, 2b	
(2b)	Reel disk (TU) assembly	T	2	(W2)	2a, 2b	
(2c)	Reel cover assembly	T	2	(S2b),2(S2a),(W2)	2d	
(3a)	Tension arm assembly	T	3	(W3a)	3b	
↑ (1)	↑ (2)	↑ (3)	↑ (4)	↑ (5)	↑ (6)	↑ (7)

2.2 DISASSEMBLY/ASSEMBLY OF MECHANISM ASSEMBLY

2.2.1 General statement

The mechanism should generally be disassembled/assembled in the EJECT mode (ASSEMBLY mode). (Refer to Fig. 2-2-1.)
However, when the mechanism is removed from the main body, it is set in the STOP mode. Therefore, it is required to shift the mechanism mode from the STOP mode to the EJECT mode after the mechanism is removed from the main body. In such the case, supply 3 V DC to the electrode on the top of the loading motor to enter the mechanism mode into the EJECT mode.


<Mechanism assembly/Cassette housing assembly>

<Back side of the mechanism assembly>

Fig. 2-2-1

2.2.2 Explanation of mechanism mode

The mechanism mode of this model is classified into six modes as shown in Table 2-2-1. Each mechanism mode can be distinguished from others by the relative position of "●" mark on the sub cam gear to the inner or outer protrusion on the main deck.
Refer to Fig. 2-2-2 to 2-2-7 below.
The EJECT mode, C IN mode and SHORT FF mode should be recognized by the relative position of the "●" mark to the inner protrusion, while the STOP mode, REV mode and PLAY mode should be recognized by that to the outer protrusion.

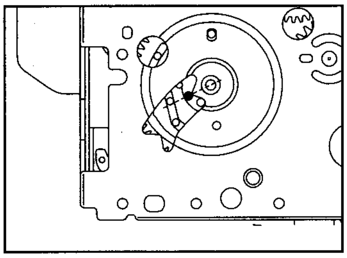

<EJECT mode>

Fig. 2-2-2

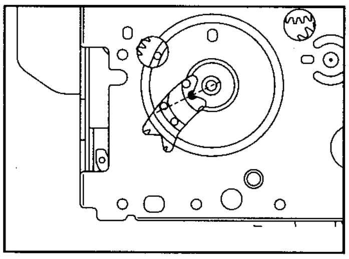

<C IN mode>

Fig. 2-2-3

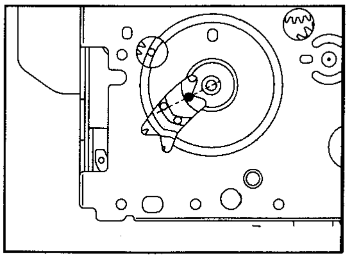

<SHORT FF mode>

Fig. 2-2-4

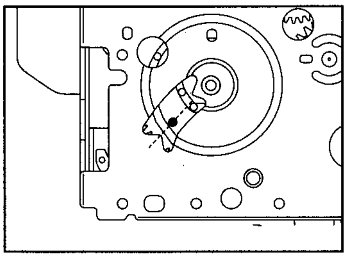

<STOP mode>

Fig. 2-2-5

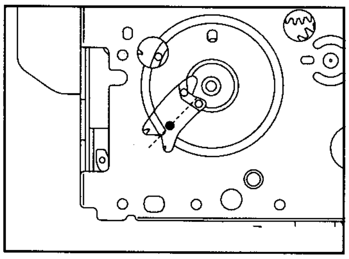

<REV mode>

Fig. 2-2-6

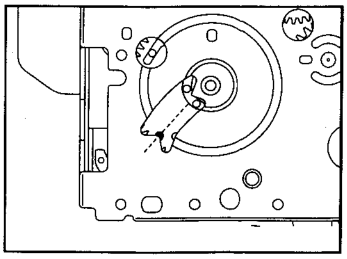

<PLAY mode>

Fig. 2-2-7

2.2.3 Mechanism timing chart

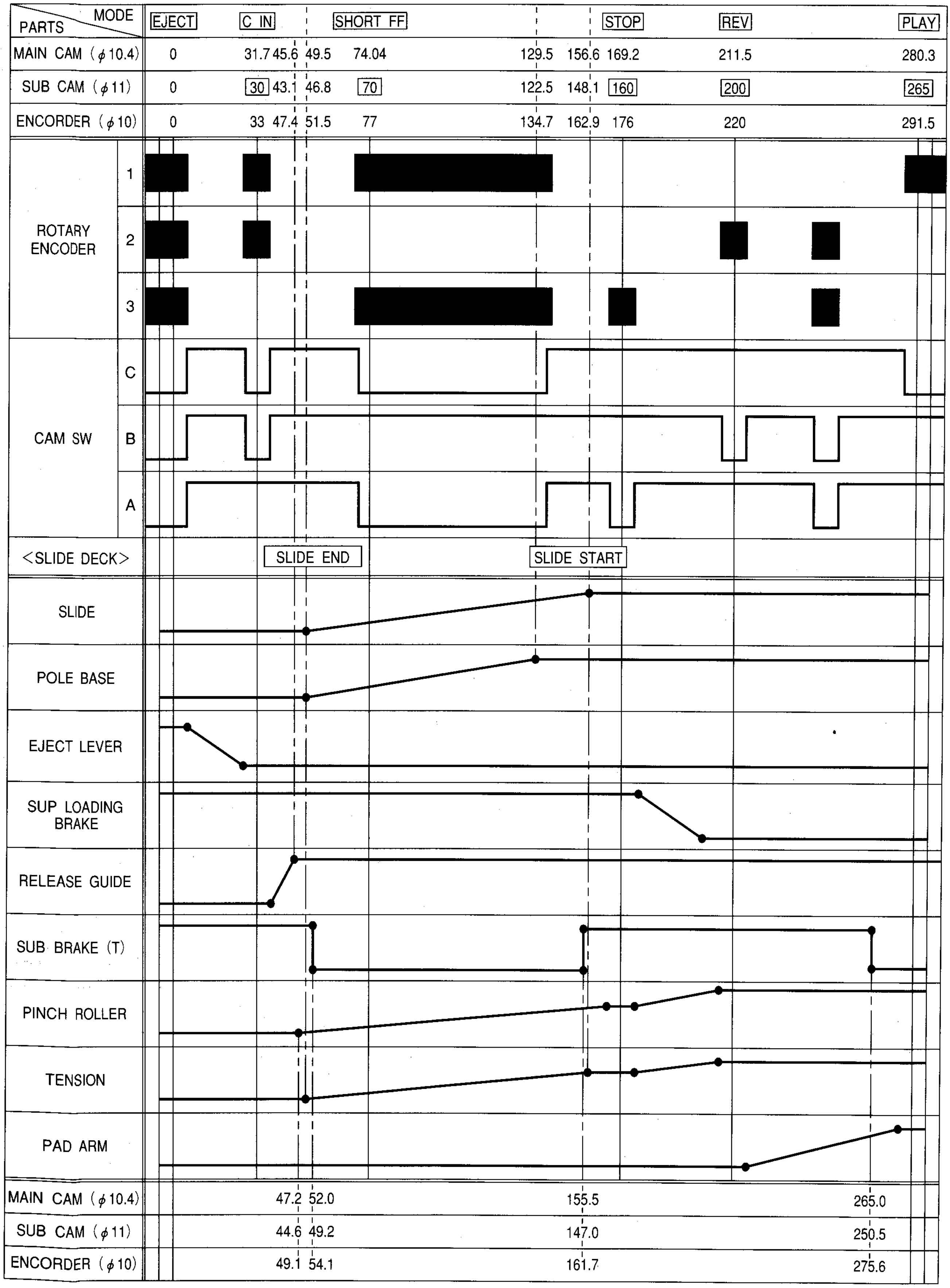

MODE
PARTS
EJECT
C IN
SHORT FF
STOP
REV
PLAY
MAIN CAM (ϕ10.4)
0
31.7
45.6
49.5
74.04
129.5
156.6
169.2
211.5
280.3
SUB CAM (ϕ11)
0
30
43.1
46.8
70
122.5
148.1
160
200
265
ENCORDER (ϕ10)
0
33
47.4
51.5
77
134.7
162.9
176
220
291.5
ROTARY ENCODER
1
2
3
CAM SW
C
B
A
<SLIDE DECK>
SLIDE END
SLIDE START
SLIDE
POLE BASE
EJECT LEVER
SUP LOADING BRAKE
RELEASE GUIDE
SUB BRAKE (T)
PINCH ROLLER
TENSION
PAD ARM
MAIN CAM (ϕ10.4)
47.2
52.0
155.5
265.0
SUB CAM (ϕ11)
44.6
49.2
147.0
250.5
ENCORDER (ϕ10)
49.1
54.1
161.7
275.6

Table 2-2-1

2.2.4 Disassembly/assembly of mechanism assembly

1. Configuration

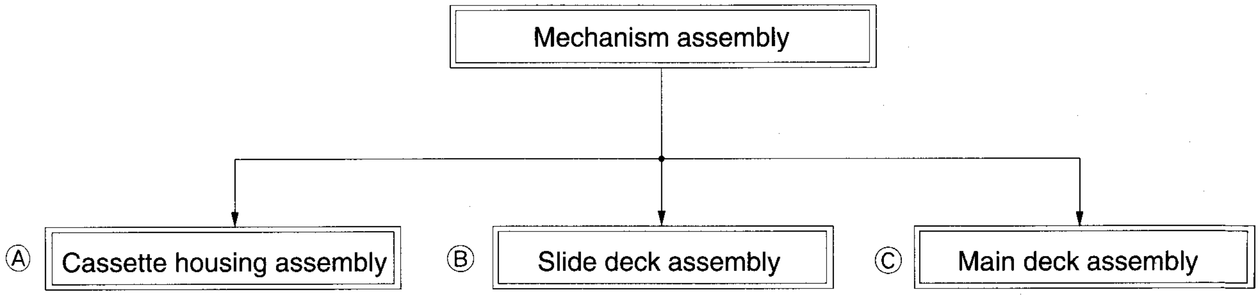

Mechanism assembly
Ⓐ Cassette housing assembly
Ⓑ Slide deck assembly
Ⓒ Main deck assembly

Fig. 2-2-8

2. Procedures for disassembly

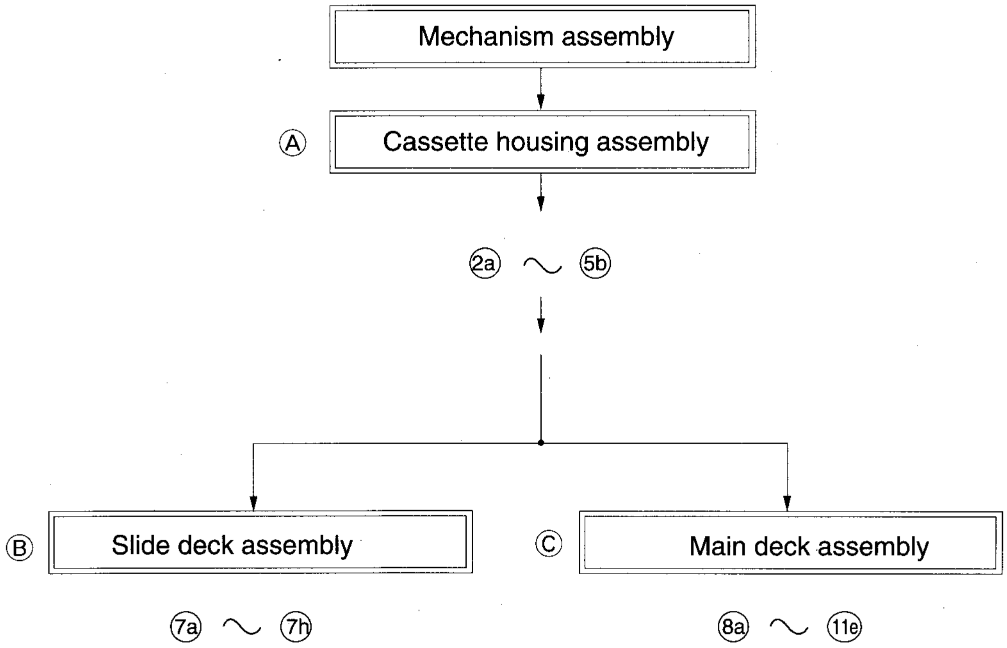

Mechanism assembly
Ⓐ Cassette housing assembly
(2a) ～ (5b)
Ⓑ Slide deck assembly
Ⓒ Main deck assembly
(7a) ～ (7h)
(8a) ～ (11e)

Fig. 2-2-9

3. Disassembling procedure table

Step	Part Name		Fig.	Point	Note	Remarks
Ⓐ	Cassette housing assembly	T	1	3(S1),(L1a)-(L1d)	1a, 1b, 1c, 1d	Adjustment
(2a)	Reel disk (SUP) assembly	T	2	(W2)	2a, 2b	
(2b)	Reel disk (TU) assembly	T	2	(W2)	2a, 2b	
(2c)	Reel cover assembly	T	2	(S2b),2(S2a),(W2)	2d	
(3a)	Tension arm assembly	T	3	(W3a)	3b	
(3b)	Release guide assembly	T	3	-	3a	
(3c)	Idler arm assembly	T	3	(W3b)	-	
(3d)	Guide arm assembly	T	3	-	3a	
(3e)	Pinch roller arm assembly	T	3	(W3a)	-	
(4a)	Cleaner arm assembly	T	4	(L4a)	4a	
(4b)	Slant pole arm assembly	T	4	(W4),(L4b),(P4a),(P4b)	4c	
(4c)	Drum assembly	T	4	3(S4)	4b	
(5a)	Guide roller (S) assembly	T	5	(P5)	5a, 5b	
(5b)	Rail assembly	T	5	3(W5)	5c, 5d	
Ⓑ	Slide deck assembly / Ⓒ Main deck assembly	T	6	(W6),(L6a)-(L6d)	6a, 6b	(Adjustment)
Ⓑ	Slide deck assembly					
(7a)	Loading brake assembly	T	7	(W7),(L7a),(P7a)	7c	Adjustment
(7b)	Guide pin (SUPPLY)	T	7	(S7a)	-	
(7c)	Pad arm assembly	T	7	(W7),(L7b),(P7b)	7d	
(7d)	Slide guide plate assembly	T	7	(S7b)	7c	Adjustment
(7e)	Collar	T	7	-	7a	
(7f)	Collar	T	7	-	7a	
(7g)	Sub brake assembly	T	7	(W7),(L7c),(P7c)	7b	
(7h)	Control plate assembly	T	7	2(W7),(L7d),(P7d)	7b	
Ⓒ	Main deck assembly					
(8a)	Tension lever assembly	T	8	-	8c	
(8b)	Slide lever assembly	T	8	-	8b	
(8c)	Brake control lever assembly	T	8	-	8a	
(9a)	Loading guide	T	9	(S9)	-	
(9b)	Timing belt	T	9	-	9b	
(9c)	Center gear assembly	T	9	-	-	
(9d)	Motor bracket assembly	T	9	2(S9)	9a	
(9e)	Worm wheel	T	9	(W9)	-	(Phase adjustment)
(9f)	Gear holder	T	9	(S9)	-	
(10a)	Main cam gear	T	10	(S10)	10b	Phase adjustment
(10b)	Brake control plate	T	10	(L10)	10b	Phase adjustment
(10c)	Rotary encoder	T	10	(S10),(W10a)	10a	Phase adjustment
(10d)	Connect gear	T	10	(W10a)	-	(Phase adjustment)
(10e)	Reel drive pulley assembly	T	10	(W10b)	-	
(11a)	Catcher (T) assembly	T	11	2(S11)	-	
(11b)	Capstan motor	T	11	2(S11)	-	
(11c)	Charge arm assembly	T	11	(W11)	11	
(11d)	Sub cam gear	T	11	(S11)	-	Phase adjustment
(11e)	PWB holder	B	11	2(S11)	-	

Table 2-2-2

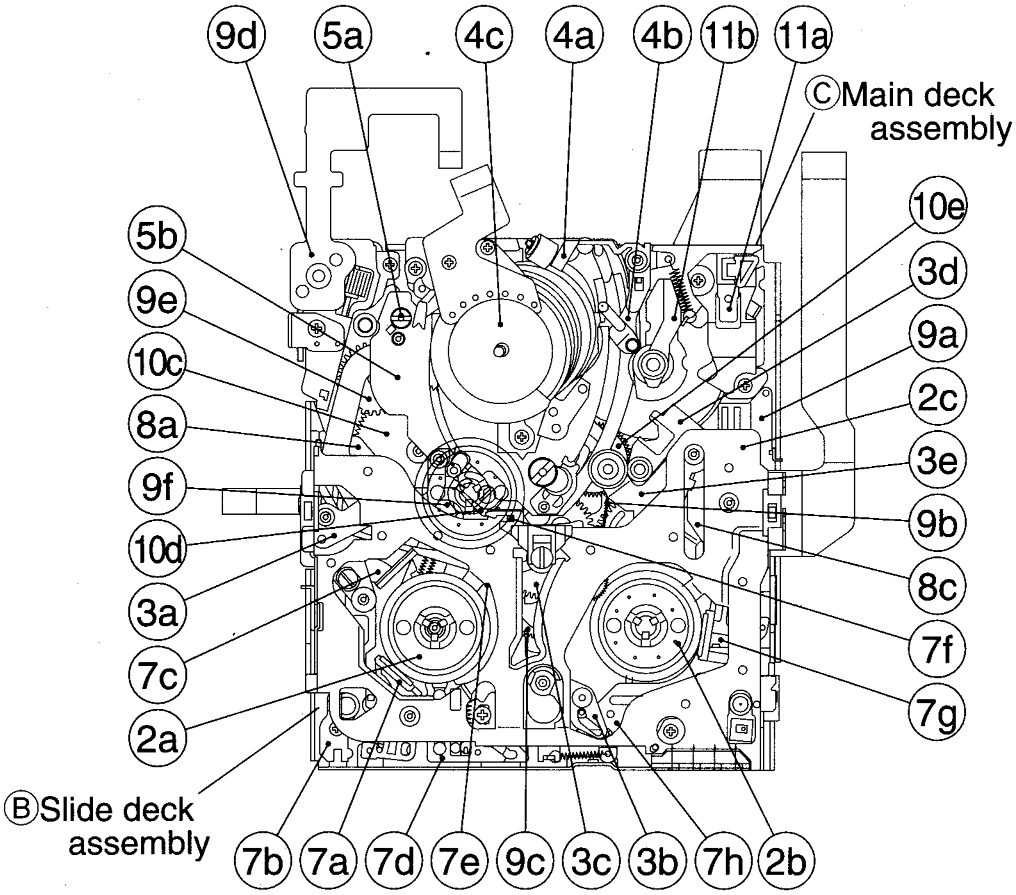

9d
5a
4c
4a
4b
11b
11a
ⒸMain deck assembly
5b
9e
10c
8a
9f
10d
3a
7c
2a
ⒷSlide deck assembly
10e
3d
9a
2c
3e
9b
8c
7f
7g
7b
7a
7d
7e
9c
3c
3b
7h
2b

Fig. 2-2-10 Top view

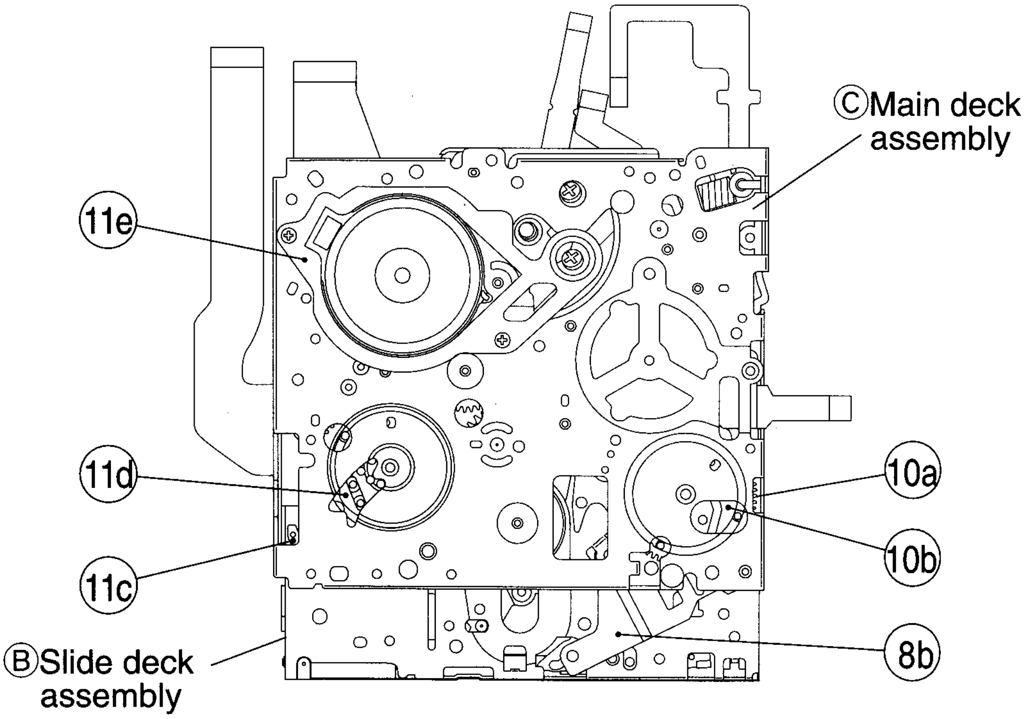

ⒸMain deck assembly
11e
11d
11c
ⒷSlide deck assembly
10a
10b
8b

Fig. 2-2-11 Bottom view

2.2.5 Disassembly/assembly

1. Ⓐ Cassette housing assembly

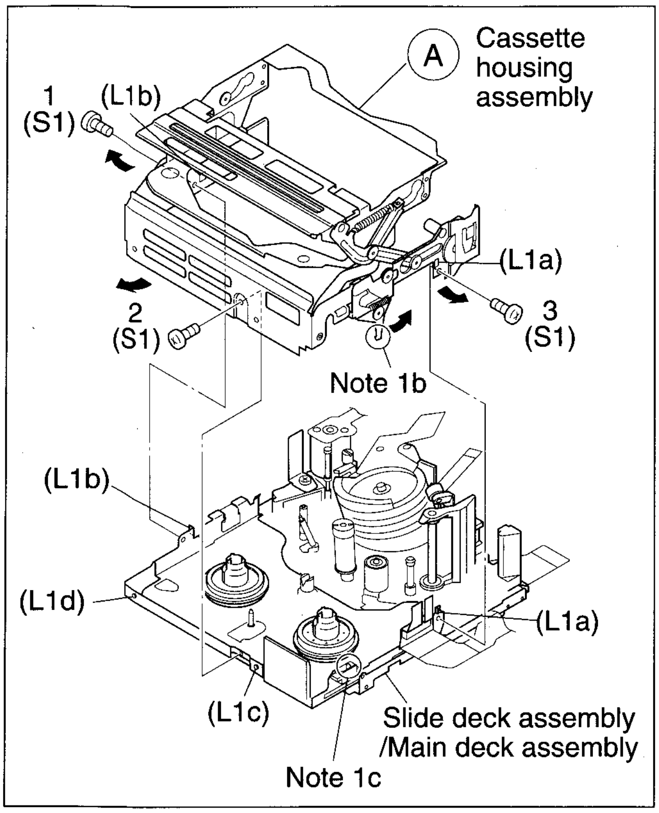
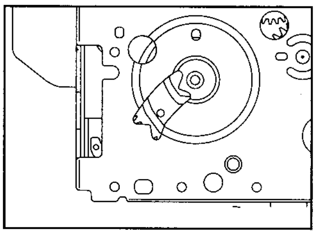
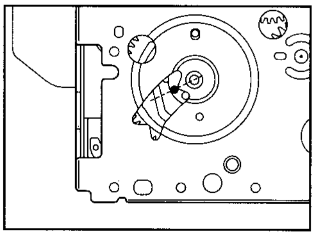

A
Cassette housing assembly
1 (L1b)
(S1)
2
(S1)
(L1a)
3
(S1)
Note 1b
(L1b)
(L1d)
(L1a)
(L1c)
Slide deck assembly /Main deck assembly
Note 1c

Fig. 1

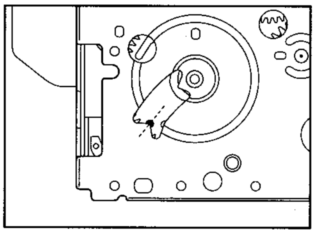
<STOP mode>



<EJECT mode>



<PLAY mode>



Note 1a:
Shift the mechanism mode from the STOP mode to the EJECT mode.

Note 1b:
Reassemble the cassette housing assembly to the mechanism as the cancel lever is moved in the direction of the arrow.

Note 1c:
When reassembling the cassette housing to the mechanism, make sure that there is no deformation in the frame or no damage to the switches, etc.

Note 1d:
After reassembling the component parts, check the mechanism operation in the PLAY mode.
For details of checking method, refer to "2.2.8 assembling slide deck assembly and main deck assembly".

2. 2a Reel disk (SUP) assembly
2b Reel disk (TU) assembly
2c Reel cover assembly

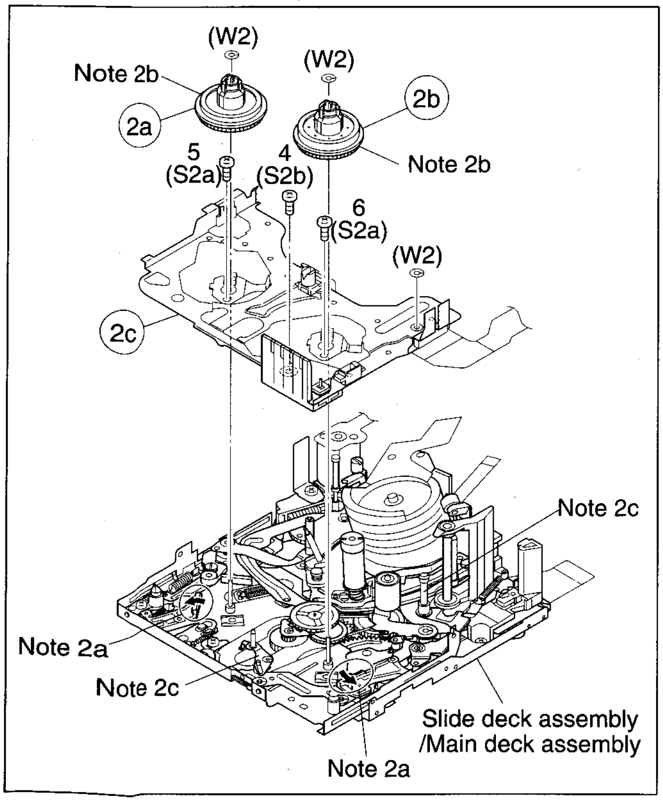
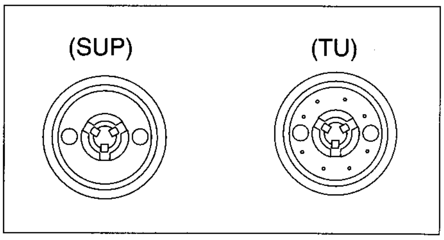

(W2)
Note 2b
2a
(W2)
2b
5
(S2a)
4
(S2b)
Note 2b
6
(S2a)
(W2)
2c
Note 2c
Note 2a
Note 2c
Slide deck assembly /Main deck assembly
Note 2a

Fig. 2

Note 2a:
When removing the reel disk assembly, be careful not to break the brake pad which applies lateral pressure to the reel disk.

Note 2b:
Be careful not to make a mistake in installing the reel disk. The SUP reel disk and TU reel disk can be distinguished from each other by the appearance as shown below.



Note 2c:
When removing the reel cover assembly, pay heed to the guide arm assembly. For, the guide arm assembly is just inserted into the slide deck assembly from the upside and it is apt to come off after the reel cover assembly is removed.

Note 2d:
When fitting the reel cover assembly to the set, carefully tighten the screw with the specified tightening torque of 0.068N·m (0.7kgf·cm).

3.(3a)Tension arm assembly/(3b)Release guide assembly
(3c)Idler arm assembly/(3d)Guide arm assembly
(3e) Pinch roller arm assembly

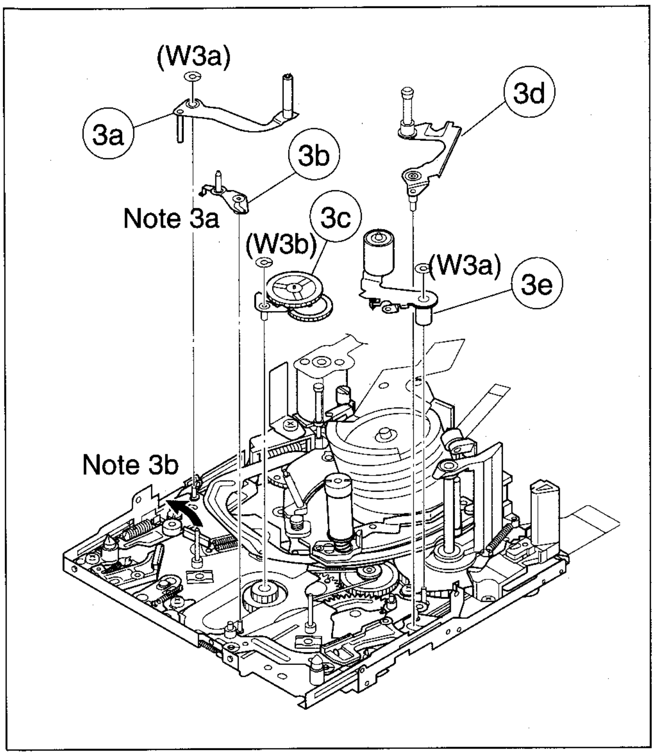
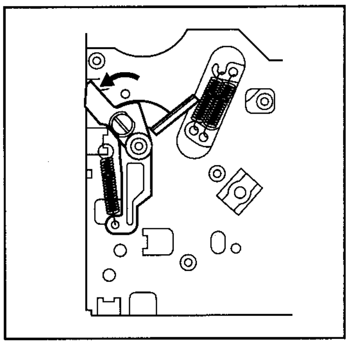

(W3a)
3a
3d
3b
Note 3a
3c
(W3b)
(W3a)
3e
Note 3b

Fig. 3

Note 3a:
When removing the reel cover assembly, pay heed to release guide assembly and guide arm assembly. For, the guide arm assembly is just inserted into the slide deck assembly from the upside and it is apt to come off after the reel cover assembly is removed.

Note 3b:
Reassemble the tension arm assembly to the mechanism as the pad arm assembly is moved to the extent in the direction of the arrow.



4.(4a)Cleaner arm assembly/(4b) Slant pole arm assembly
(4c)Drum assembly

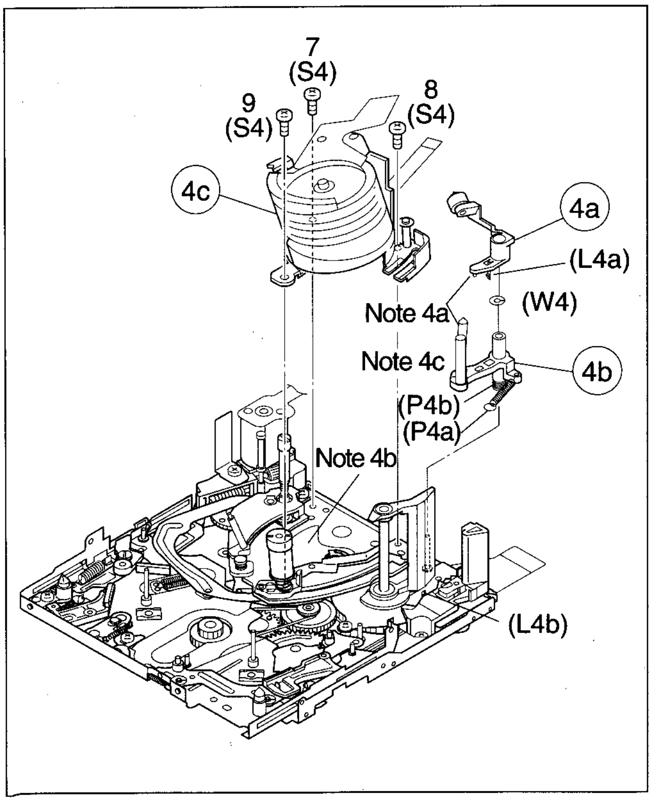
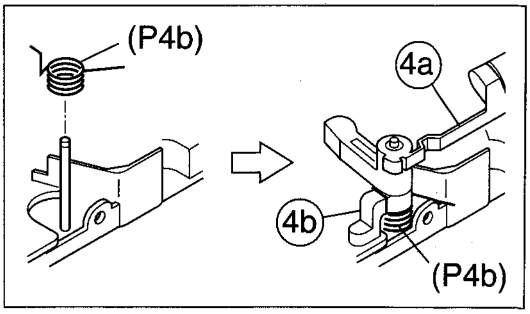

7
(S4)
9
(S4)
8
(S4)
4c
4a
(L4a)
Note 4a
(W4)
Note 4c
4b
(P4b)
(P4a)
Note 4b
(L4b)

Fig. 4

Note 4a:
When removing the cleaner arm assembly, it is recommended to remove the slant pole arm assembly together with it except the case of a single unit replacement, because the hook (L4a) is hard to disengage.

Note 4b:
When the shield is applied, carefully remove the drum final assembly because the drum is stuck to the shield.

Note 4c:
How to set the coil spring (P4b).


(P4b)
4a
4b
(P4b)

5. (5a) Guide roller (SUPPLY) assembly/(5b) Rail assembly

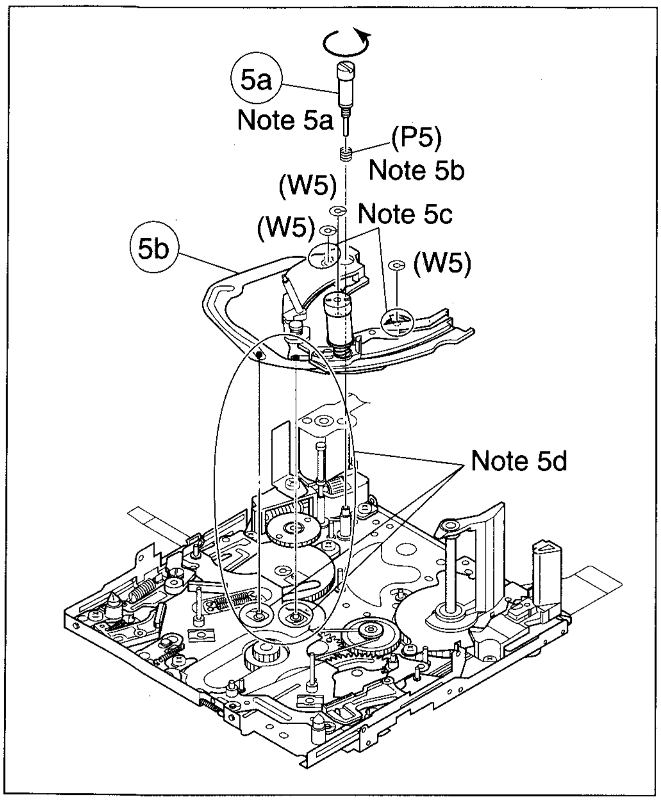

5a
Note 5a
(P5)
Note 5b
(W5)
(W5)
Note 5c
(W5)
5b
Note 5d

Fig. 5

Note 5a:
When removing the rail assembly, remove the guide roller (SUPPLY) assembly beforehand.

Note 5b:
Pay careful attention to the spring not to lose it.

Note 5c:
Pay careful attention to the engagement of the rail assembly's arm ends because they easily come off the engagement. Moreover, make sure that there is neither deformation nor damage observed in them.

Note 5d:
When removing the rail assembly, check to see if the collar is securely set in the arm groove.

6. Ⓑ Slide deck assembly/ Ⓒ Main deck assembly

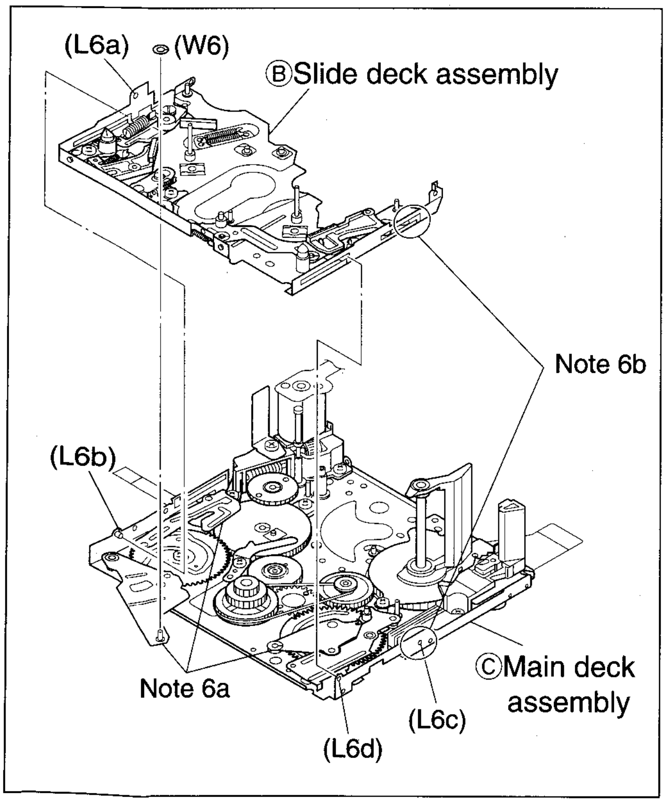
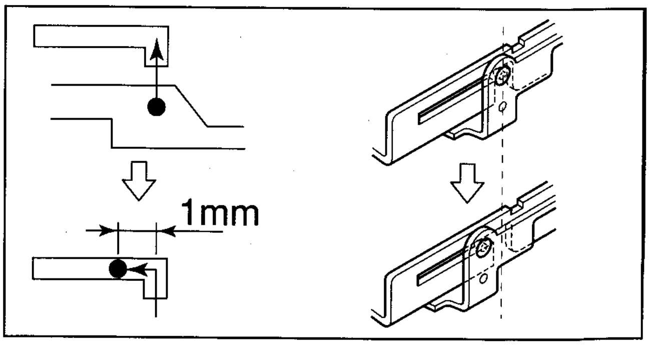

(L6a)
(W6)
ⒷSlide deck assembly
Note 6b
(L6b)
Note 6a
(L6c)
(L6d)
ⒸMain deck
assembly

Fig. 6

Note 6a:
When removing the slide deck assembly, pay heed to the three components of the following because they are apt to come off after the slide deck assembly is removed.

(8a) Tension lever assembly/(8b) Slide lever assembly
(8c) Brake control lever assembly
For reassembling those components, refer to Fig. 8 on page 2-10.

Note 6b:
When reassembling the slide deck assembly to the main deck assembly, combine them with each other by the side grooves and then slide the slide deck assembly by 1 mm or so.



7. 7a Loading brake assembly/ 7b Guide pin (S) 7c Pad arm assembly/ 7d Slide guide plate assembly 7e Collar/ 7f Collar/ 7g Sub brake assembly 7h Control plate assembly

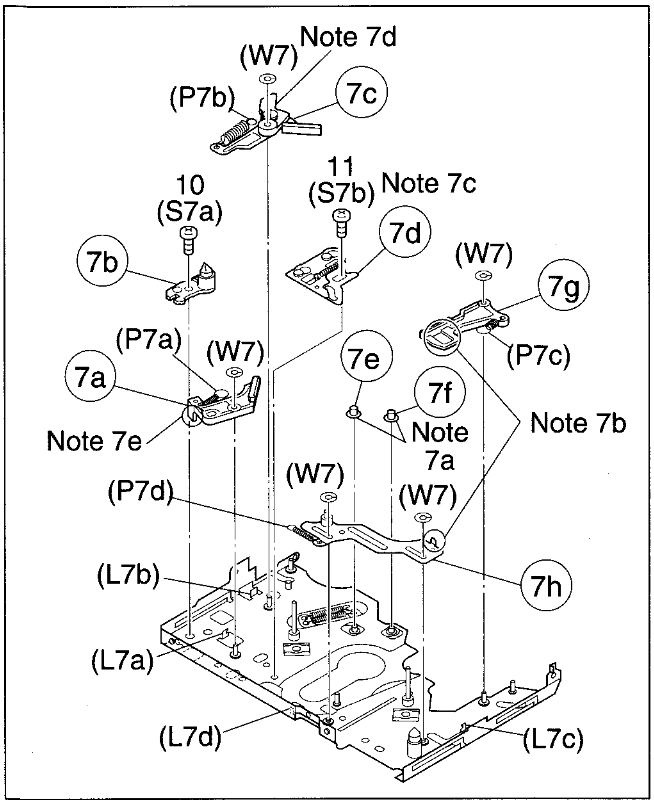


Fig. 7

8. 8a Tension lever assembly/ 8b Slide lever assembly 8c Brake control lever assembly

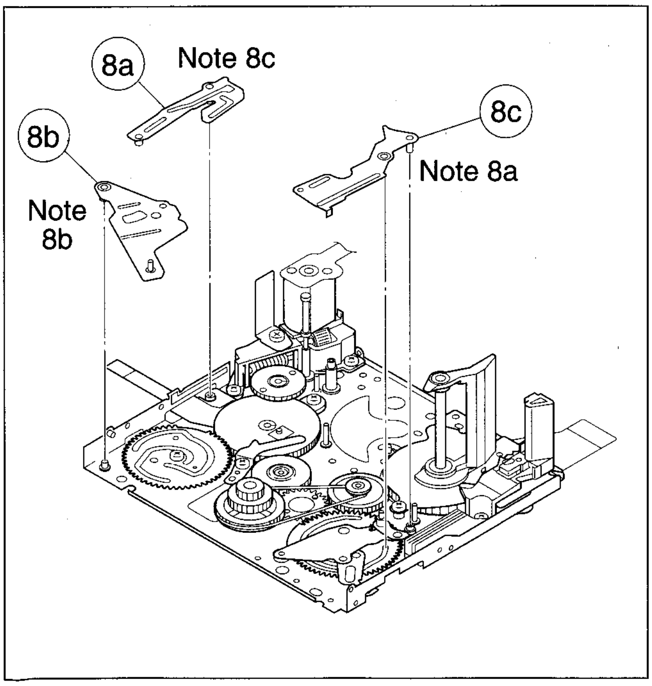
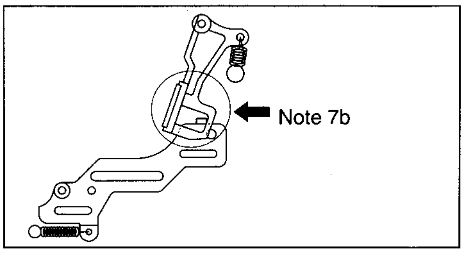


Fig. 8

Note 7a:
Don't remove these parts unreasonably. If they are removed for some reason, be very careful not to lose them.

Note 7b:
When reinstalling the sub brake assembly, set the control plate assembly so that its hook is set in the # part of the sub brake assembly.



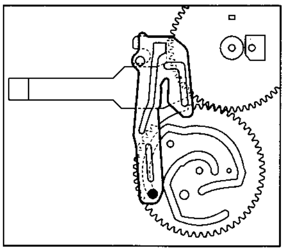
Note 7c:
Since the slide guide plate assembly controls the slide deck assembly so that it exactly slides the main deck assembly, it must exactly be assembled in the PLAY mode. Therefore, temporarily fix the slide guide plate assembly in this stage. For details of reassembling procedure, refer to "2.2.8 Assembling slide deck assembly and main deck assembly" on page 2-15.

Note 7d:
The pad arm assembly controls the tension level of the tension arm assembly. For adjustment of the tension arm assembly, refer to page 2-8.

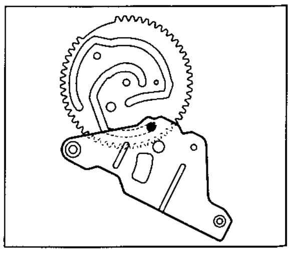
Note 7e:
When reinstalling the load brake assembly, slightly lift the slide deck assembly upwards because the lower part of the load brake assembly sticks out of the slide deck assembly.

Note 8a, 8b, 8c:
For refitting the respective parts, refer to the following figures

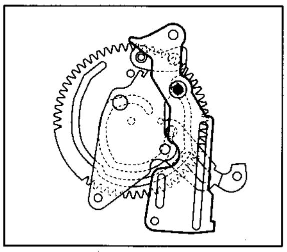
8a Tension lever assembly



8b Slide lever assembly



8c Brake control lever assembly



9.(9a) Loading guide/(9b) Timing belt
(9c) Center gear assembly/(9d) Motor bracket assembly
(9e) Worm wheel/(9f) Gear holder

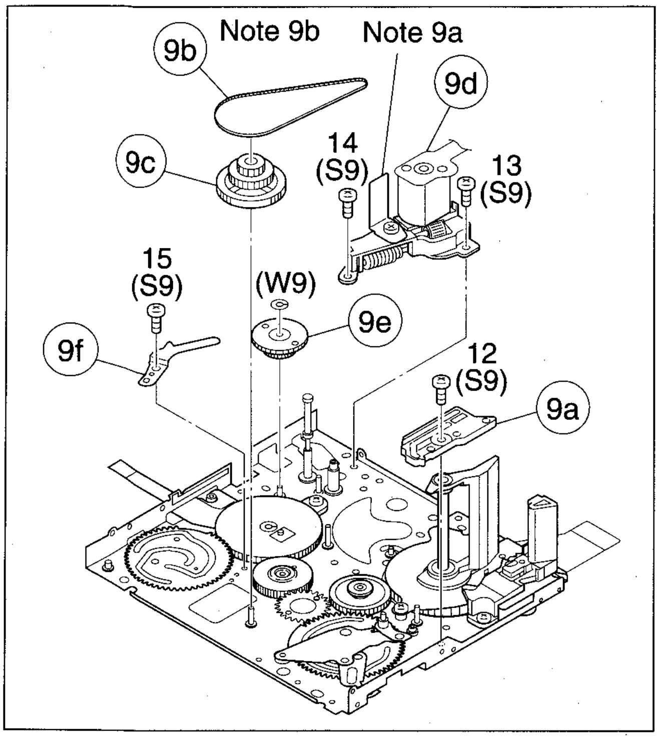

9b
Note 9b
Note 9a
9d
9c
14
(S9)
13
(S9)
15
(S9)
(W9)
9e
9f
12
(S9)
9a

Fig. 9

Note 9a:
Carefully handle the DEW sensor. (Don't touch the sensor surface in particular.)

Note 9b:
When engaging the timing belt, make sure that it securely engages with the gears of both the center gear assembly and reel drive pulley assembly.

10.(10a) Main cam gear/(10b) Brake control plate
(10c) Rotary encoder/(10d) Connect gear
(10e) Reel drive pulley assembly

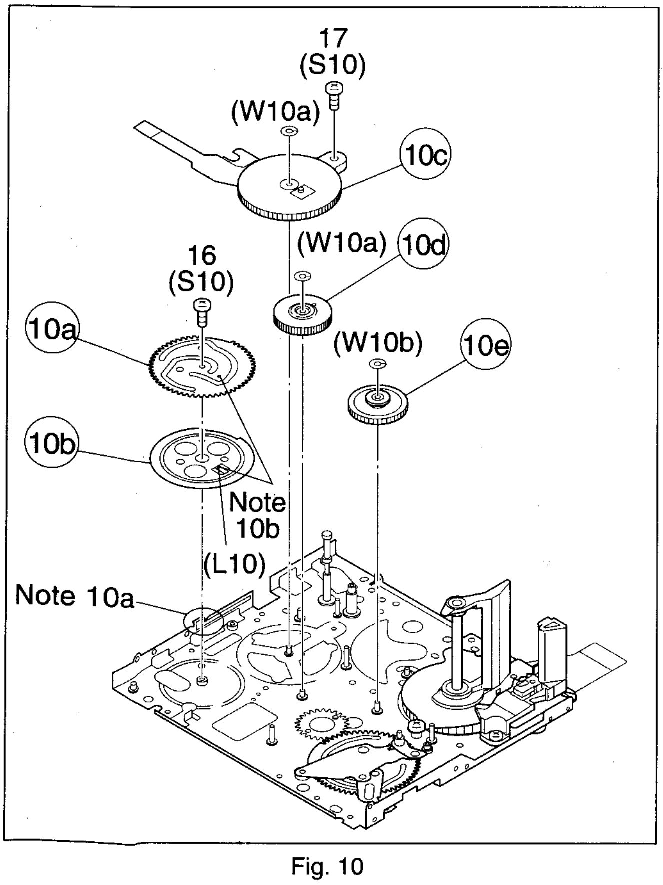
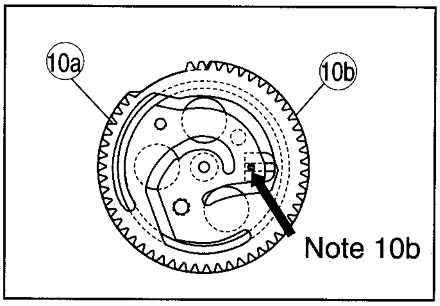

17
(S10)
(W10a)
10c
(W10a)
10d
16
(S10)
10a
(W10b)
10e
10b
Note
10b
(L10)
Note 10a

Fig. 10

Note 10a:
When removing/refitting parts, pay careful attention to the flexible board and so on not to damage them.

Note 10b:
When reinstalling the main cam gear and the brake control plate, first fit them together so that the protrusion on the brake control plate is set in the slot on the main cam gear as shown below, next install the two together to the main deck assembly.


10a
10b
Note 10b

11. (11a) Catcher (T) assembly/ (11b) Capstan motor (11c) Charge arm assembly/ (11d) Sub cam gear (11e) PWB holder

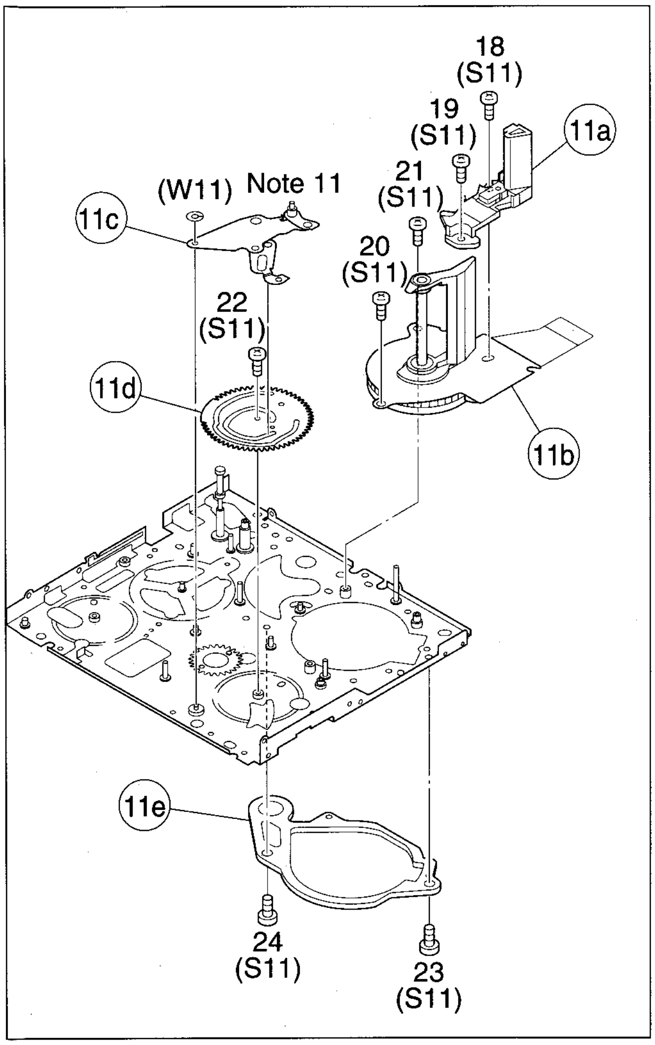
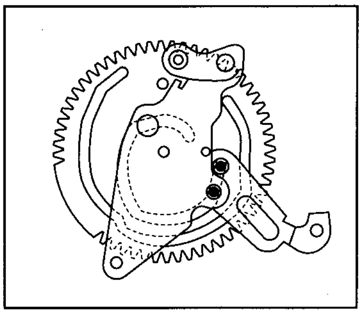

18
(S11)
19
(S11)
11a
(W11) Note 11
21
(S11)
11c
20
(S11)
22
(S11)
11d
11b
11e
24
(S11)
23
(S11)

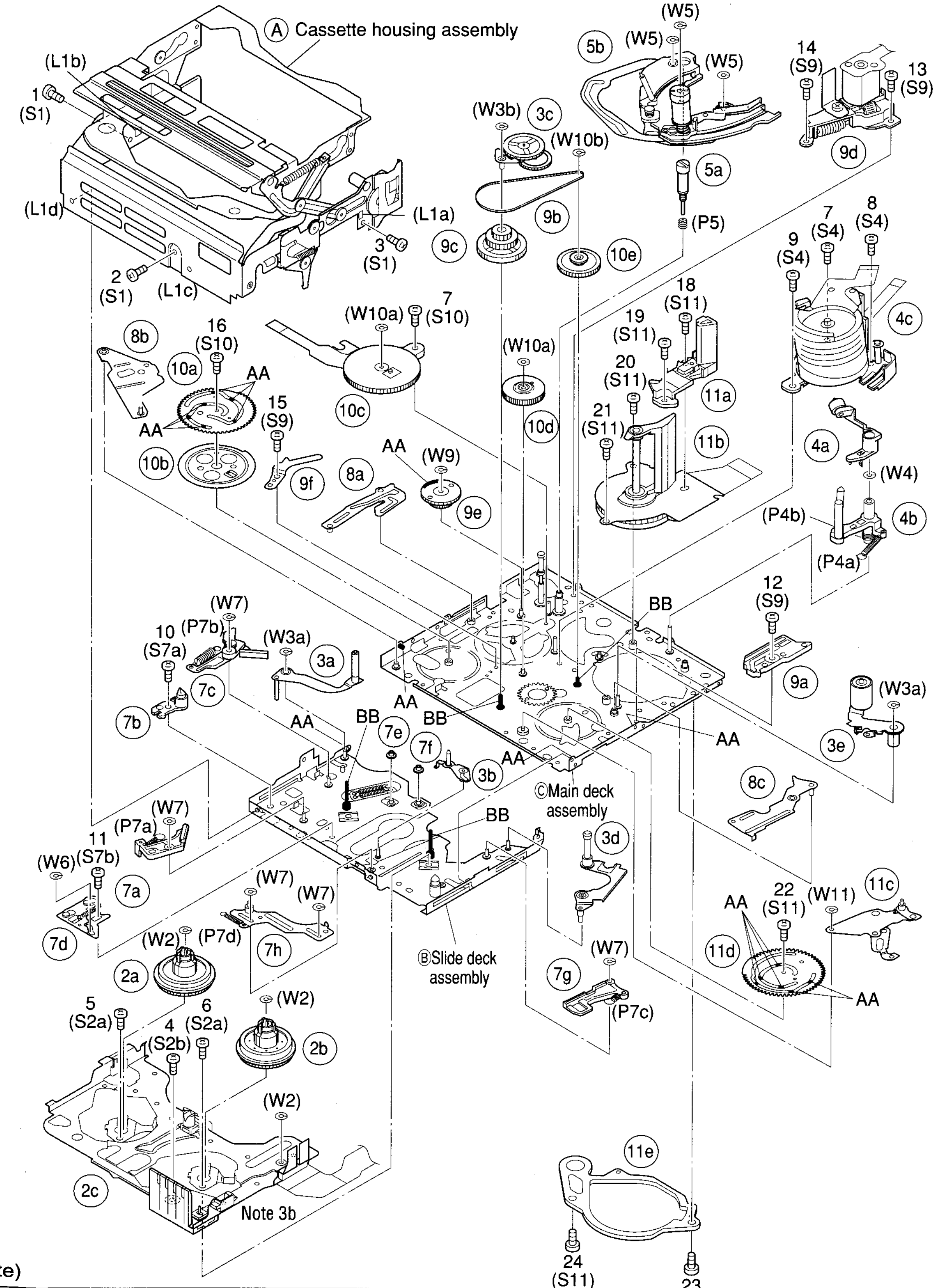
Fig. 11

Note 11:

The following figure shows how to put the charge arm assembly and sub cam gear assembly together.



2.2.6 List of procedures for disassembly

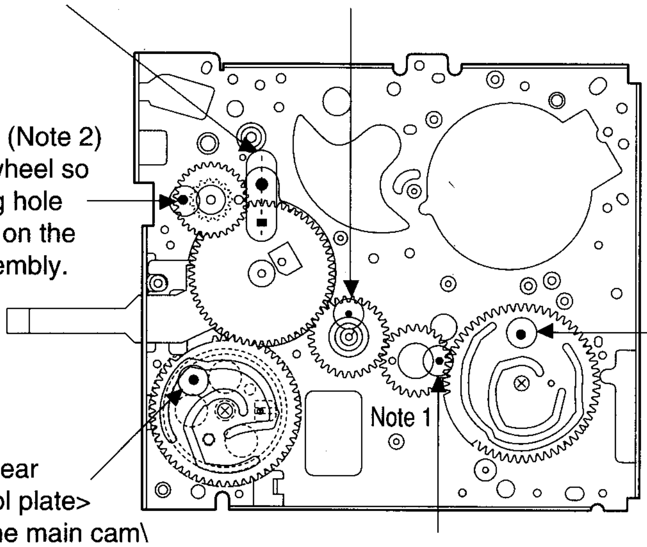

Ⓐ Cassette housing assembly
(L1b)
1 (S1)
(L1d)
(L1a)
3 (S1)
2 (S1)
(L1c)
(W3b)
3c
(W10b)
9b
9c
10e
5b
(W5)
(W5)
(W5)
5a
(P5)
14 (S9)
13 (S9)
9d
7 (S4)
8 (S4)
9 (S4)
4c
8b
16 (S10)
10a
AA
AA
10b
15 (S9)
9f
(W10a)
7 (S10)
10c
(W10a)
10d
18 (S11)
19 (S11)
20 (S11)
11a
21 (S11)
11b
AA
(W9)
8a
9e
4a
(W4)
(P4b)
4b
(P4a)
BB
12 (S9)
9a
(W3a)
3e
(W7)
10 (S7a)
(P7b)
(W3a)
3a
7c
7b
AA
AA
BB
BB
7e
7f
AA
3b
AA
Ⓒ Main deck assembly
8c
(W7)
11 (S7b)
(P7a)
(W6)
7a
7d
BB
3d
(W7)
(W7)
(W2)
(P7d)
7h
2a
Ⓑ Slide deck assembly
7g
(W7)
(P7c)
AA
22 (S11)
(W11)
11c
11d
AA
5 (S2a)
6 (S2a)
4 (S2b)
(W2)
2b
(W2)
2c
Note 3b
11e
24 (S11)
23 (S11)

Note)

Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-P	AA
Oil	YTU94027	BB

Fig. 2-2-12

2.2.7 Checkup and adjustment of mechanism phase



<Rotary encoder>
Set the "■" of the rotary part at the tapped hole as shown in the figure.

<Connect gear> (Note 2)
Set the connect gear so that its locating hole meets the hole on the main deck assembly.

<Worm wheel> (Note 2)
Set the worm wheel so that its locating hole meets the hole on the main deck assembly.

<Sub cam gear>
Set the sub cam gear so that its locating hole meets the hole on the main deck assembly. This state represents that the mechanism is in the EJECT mode, which is the "mechanism assembly mode".

<Main cam gear /Brake control plate>
After fitting the main cam\ gear and brake control plat together,set them together so that their locating holes meet the hole on the main \ deck assembly.

<Connect gear 2> (Note 2)
Set the connect gear 2 so that its locating hole meets the hole on the main deck assembly.

Note 1:
Since the connect gear 2 is tightly fixed to the main deck by caulking, adjust its phase with the connect gear and sub cam gear.

Note 2:
The part that needs phase adjustment by the hole on the main deck assembly must exactly be set as the specified phase. There is a fear that some part is installed in a wrong phase because assembling of the mechanism is automated. If so, set every part in the correct phase whenever the mechanism is reassembled.

Fig. 2-2-13

2.2.8 Assembling slide deck assembly and main deck assembly

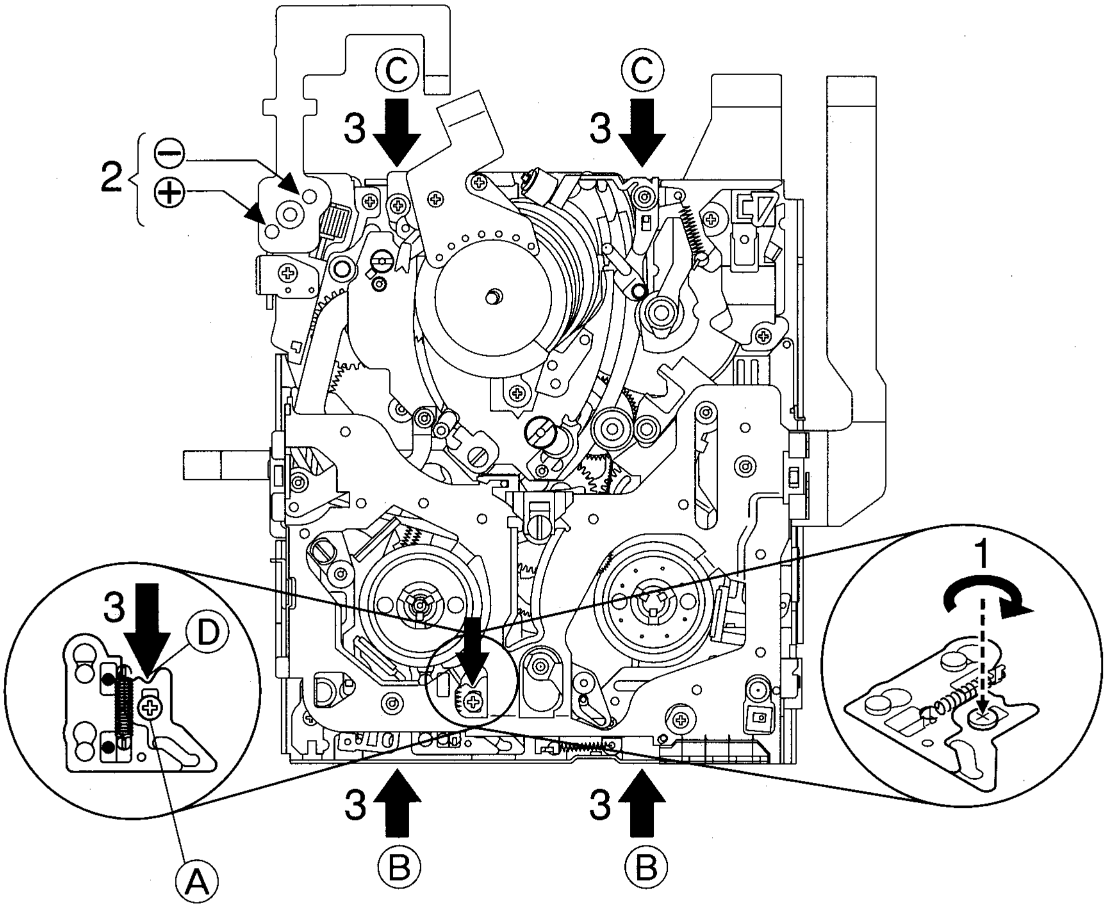


Fig. 2-2-14

Assembling procedure

1. Loosen the screw Ⓐ.
2. Set the mechanism in the PLAY mode. (Refer to page 2-2.)
3. Press the end face B of the slide deck assembly (reel disk side) and the end face Ⓒ of the main deck assembly (drum assembly side) with uniform force so that the two assemblies are tightly pressed to each other. Furthermore, press the part Ⓓ and tighten the screw Ⓐ.

Note : *Tightening torque for screw Ⓐ: 0.029 N·m (0.3 kgf·cm)*

2.2.9 Locating tension pole

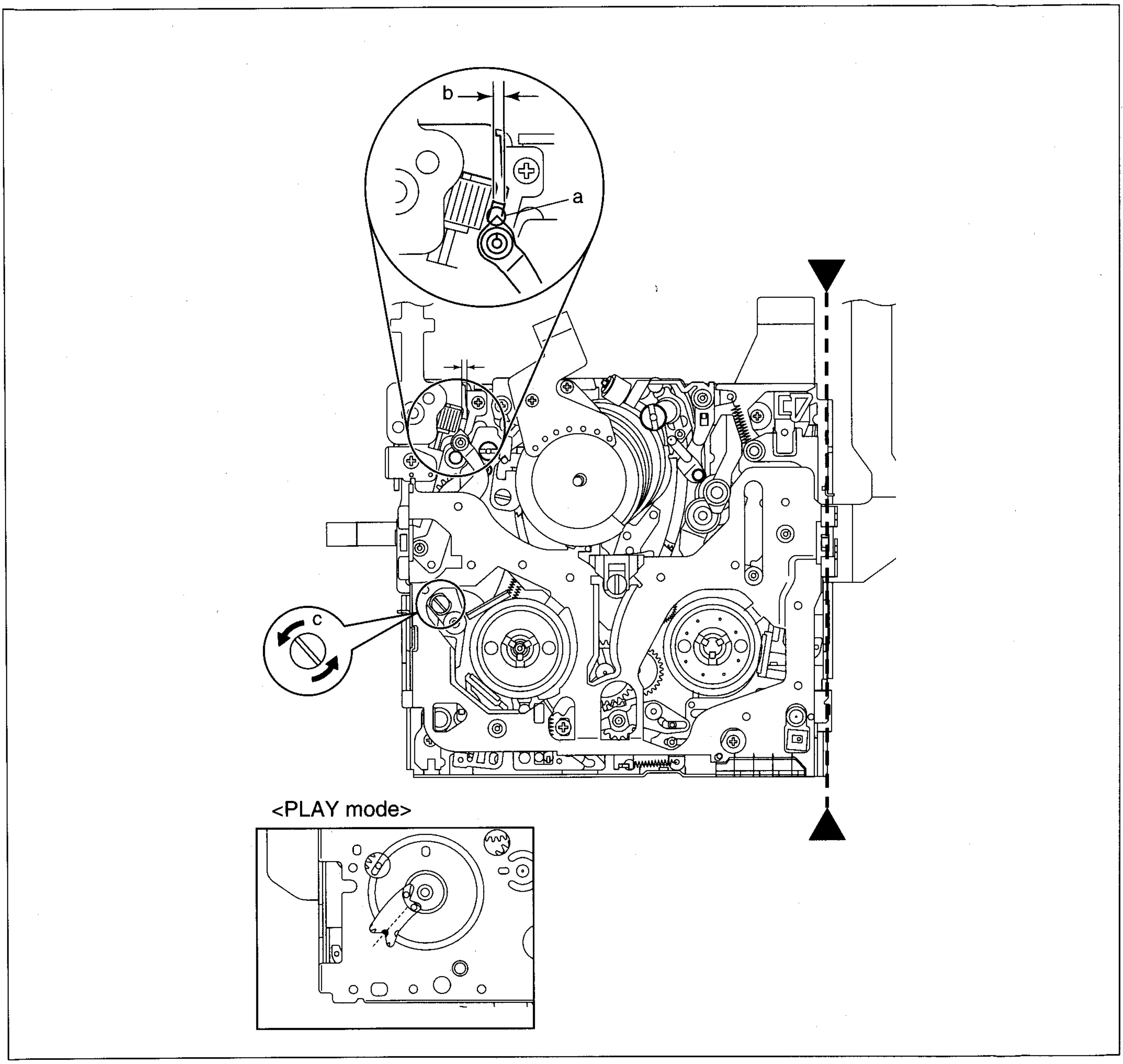


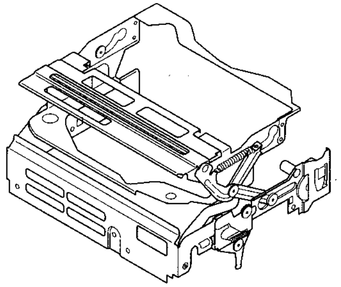
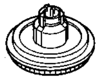
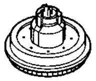
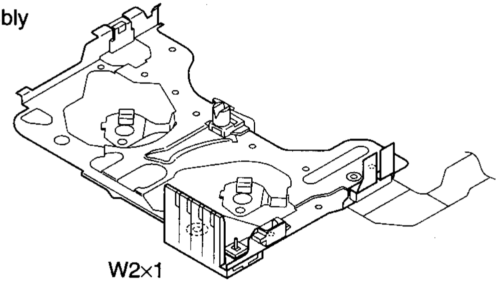
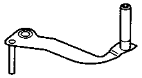
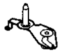
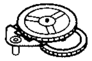
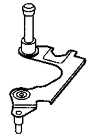
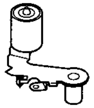
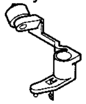
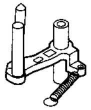
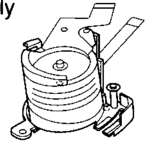
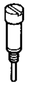
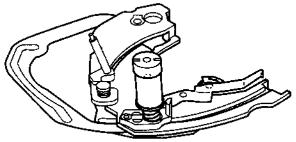
Fig. 2-2-15

Locating procedure

1. Enter the mechanism assembly into the PLAY mode. (Refer to page 2-2.)
2. When the " ▶-----◀ " part is positioned down, make sure that the part "a" of the tension arm assembly is located within the range of "b".
3. If the part "a" is out of the range, turn the pin "c" to adjust the position.

2.3 SERVICE NOTE

Use the following chart to manage mechanism parts that are removed for disassembling the mechanism.

1	Ⓐ Cassette housing assembly  S1×3				
2	(2a) Reel disk (SUP) assembly  W2×1 (2b) Reel disk (TU) assembly  W2×1	(2c) Reel cover assembly  S2a×2 S2b×1 W2×1			
3	(3a) Tension arm assembly  W3a×1	(3b) Release guide assembly 	(3c) Idler arm assembly  W3b×1	(3d) Guide arm assembly 	(3e) Pinch roller arm assembly  W3a×1
4	(4a) Cleaner arm assembly 	(4b) Slant pole arm assembly  W4×1 P4a×1 P4b×1	(4c) Drum assembly  S4×3		
5	(5a) Guide roller (S) assembly  P5×1	(5b) Rail assembly  W5×3			

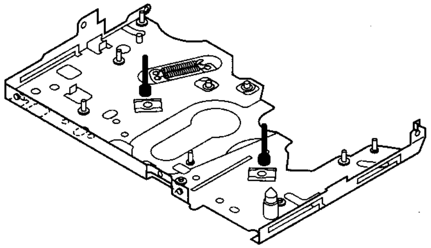
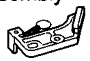
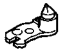
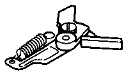
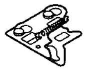
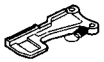
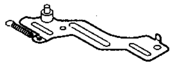
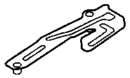
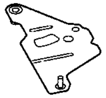
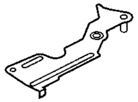
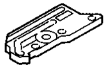
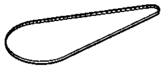
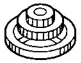
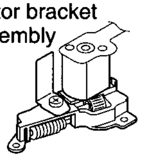
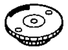
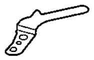
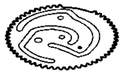
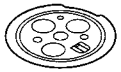
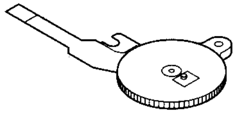
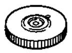
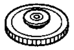
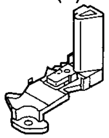
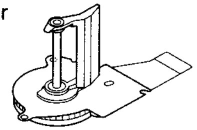
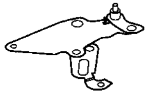
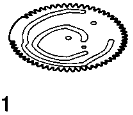
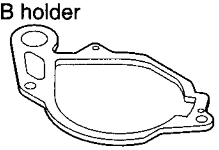
6	Ⓑ Slide deck assembly  W6×1					
7	(7a) Loading brake assembly  W7×1 P7a×1	(7b) Guide pin (SUPPLY)  S7a×1	(7c) Pad arm assembly  W7×1 P7b×1	(7d) Slide guide plate assembly  S7b×1 W7×1		
	(7e) Collar	(7f) Collar	(7g) Sub brake assembly  W7×1 P7c×1	(7h) Control plate assembly  W7×2 P7d×1		
8	(8a) Tension lever assembly 	(8b) Slide lever assembly 	(8c) Brake control lever assembly 			
9	(9a) Loading guide  S9×1	(9b) Timing belt 	(9c) Center gear assembly 	(9d) Motor bracket assembly  S9×2	(9e) Worm wheel  W9×1	(9f) Gear holder  S9×1
10	(10a) Main cam gear  S10×1	(10b) Brake control plate 	(10c) Rotary encoder  S10×1 W10a×1	(10d) Connect gear  W10a×1	(10e) Reel drive pulley assembly  W10b×1	
11	(11a) Catcher (T) assembly  S11×2	(11b) Capstan motor  S11×2	(11c) Charge arm assembly  W11×1	(11d) Sub cam gear  S11×1	(11e) PWB holder  S11×2	

Table 2-3-1

SECTION 3
ELECTRICAL ADJUSTMENT

3.1 PREPARATION BEFORE ADJUSTMENT

3.1.1 Precautions

Both the deck and camera sections of this model are designed to be adjustment-free. However, if the following part is replaced, the set must be brought into a JVC service center having a complete set of service equipment, because it needs special adjustment with a personal computer in such a case.

- OP block
- E^{2}PROM (IC1003 on MAIN board)
- MONITOR
- E^{2}PROM (IC7210 on MONITOR board)

When there is some trouble with the electric circuit, it is required to detect the part of the failure with specified test instruments first and then to proceed to adjustment, repair or replacement. Matters that require attention:

(1) When checking at a chip test point, be sure to use an IC clip or the like not to apply it any stress.
When replacing a chip part (IC in particular), completely remove solder from it and its periphery before replacement (to avoid exfoliation of the pattern).
(2) Carefully connect/disconnect a connector because it is apt to get damaged.

3.1.2 Required test equipment

(1) Personal computer (operated on Windows OS)
(2) Color video monitor
(3) Oscilloscope (dual-trace type, observable 100 MHz or higher frequency)
* It is recommended to use one observable 300 MHz or higher frequency.
(4) Digital voltmeter
(5) DC power supply
(6) Frequency counter (with threshold level adjustment)

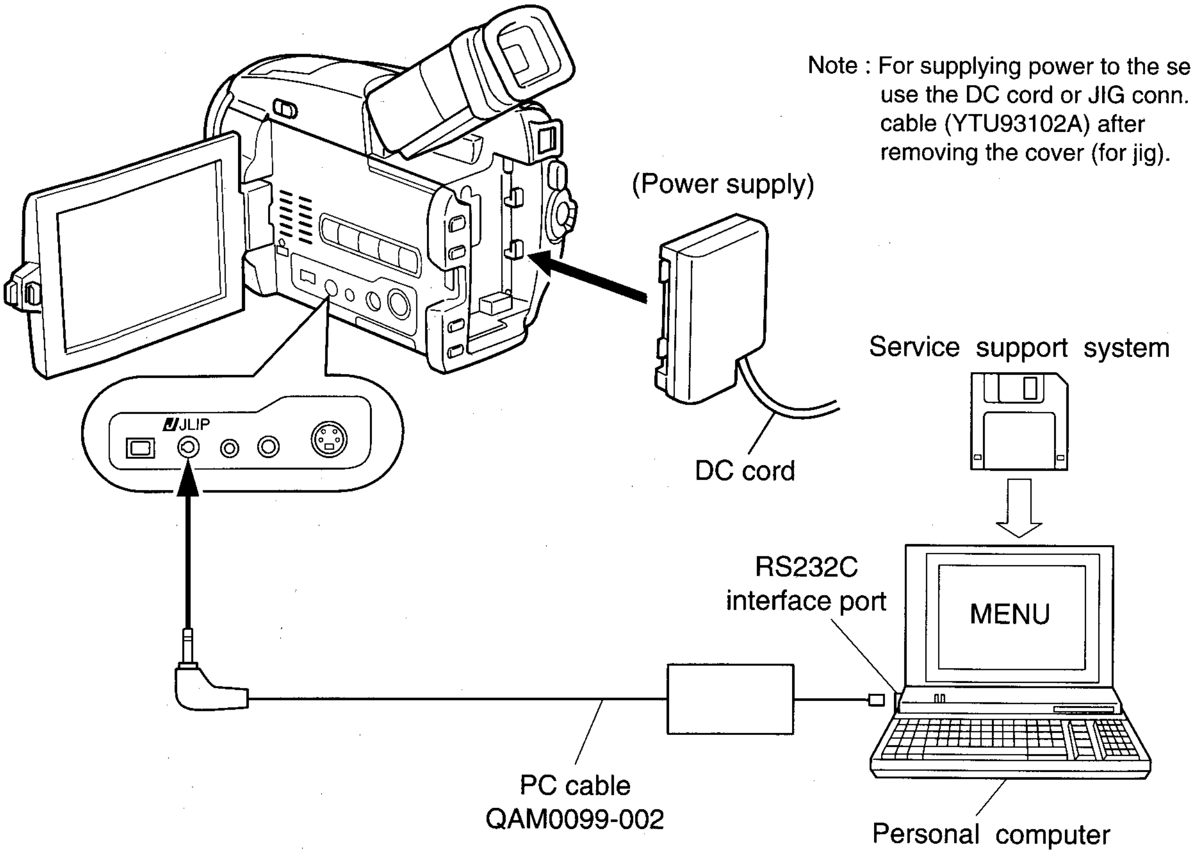
3.1.3 Jigs necessary for electrical adjustment

For jigs necessary for electrical adjustment, refer to pages 1-2 and 1-3 of the Section 1.

3.1.4 Setup

Note: *For adjustment with a personal computer, basically use the JLIP terminal of the set for connecting the personal computer.*

1. For connecting personal computer directly to the set. (For checking the set status before disassembling.)



Note : For supplying power to the set, use the DC cord or JIG conn. cable (YTU93102A) after removing the cover (for jig).

Fig. 3-1-1 Setup for electrical adjustment with personal computer (I)

2. Setup with patch cords and jig connector cables

NOTE:

Fig. 3-1-2 shows an example of expansion setup that facilitates inspection of major boards because main components are connected by means of patch cords and jig cables. For proceeding to electrical adjustment in such the setup, disassemble the set at a certain level required for the current adjustment objectives referring to the section 1 "DISASSEMBLY" and properly set up the expanded set and test instruments.

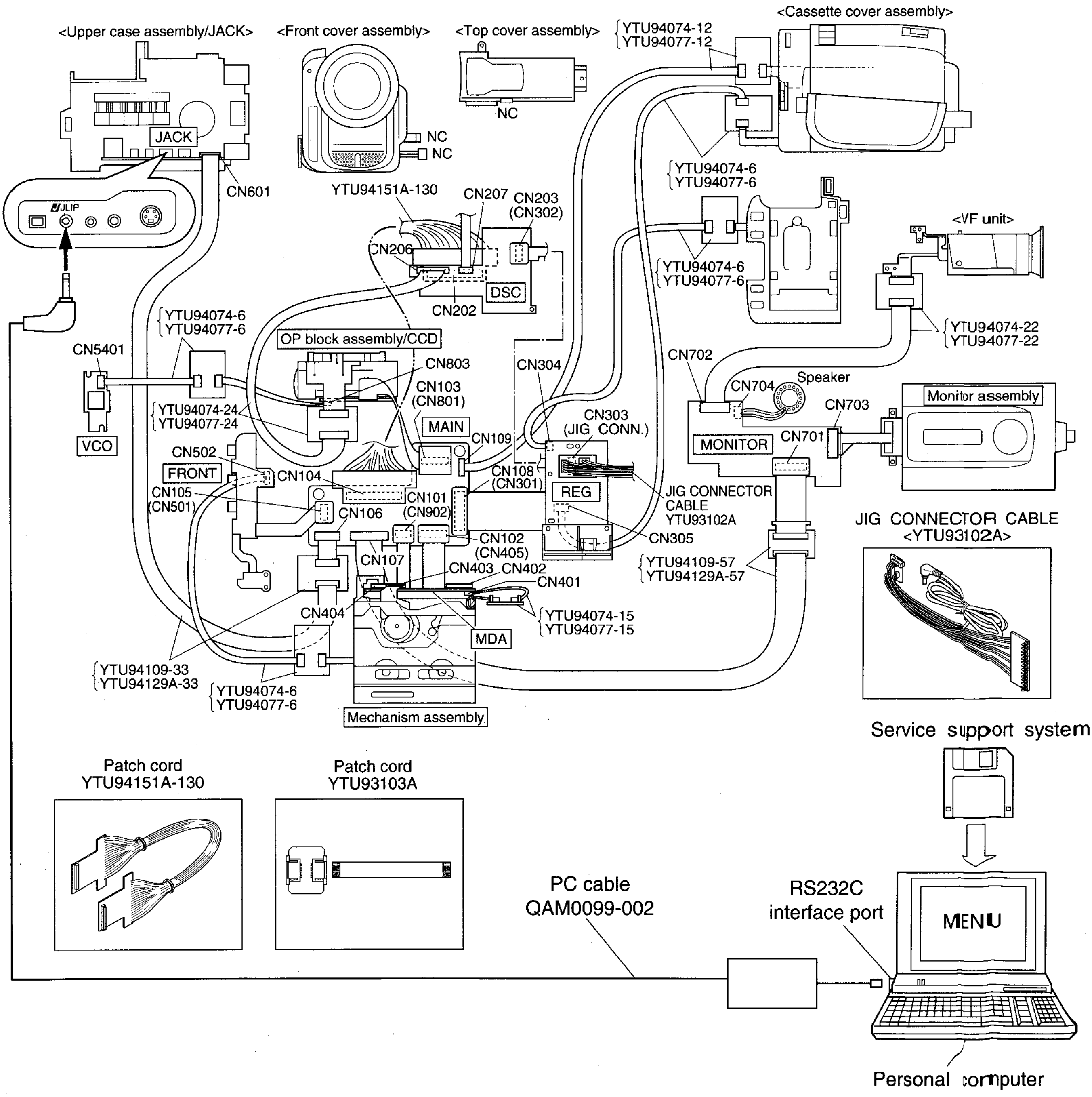

<Upper case assembly/JACK>
<Front cover assembly>
<Top cover assembly>
YTU94074-12
YTU94077-12
<Cassette cover assembly>
JACK
JLIP
NC
NC
NC
CN601
YTU94151A-130
CN207
CN203
(CN302)
YTU94074-6
YTU94077-6
<VF unit>
CN206
DSC
CN202
YTU94074-6
YTU94077-6
YTU94074-6
YTU94077-6
YTU94074-22
YTU94077-22
CN5401
OP block assembly/CCD
CN803
CN103
(CN801)
CN304
CN702
Speaker
CN704
Monitor assembly
YTU94074-24
YTU94077-24
CN303
(JIG CONN.)
CN703
VCO
MAIN
CN109
MONITOR
CN701
CN502
FRONT
CN104
CN108
(CN301)
REG
JIG CONNECTOR CABLE
YTU93102A
CN105
(CN501)
CN101
(CN902)
CN106
CN102
(CN405)
CN305
JIG CONNECTOR CABLE
<YTU93102A>
CN107
CN403
CN402
CN401
YTU94109-57
YTU94129A-57
CN404
YTU94074-15
YTU94077-15
MDA
YTU94109-33
YTU94129A-33
YTU94074-6
YTU94077-6
Mechanism assembly
Service support system
Patch cord
YTU94151A-130
Patch cord
YTU93103A
PC cable
QAM0099-002
RS232C
interface port
MENU
Personal computer

Fig. 3-1-2 Setup for electrical adjustment with personal computer (II)

3.2 MONITOR ADJUSTMENT

Note: *Unless otherwise specified, all measurement points and adjustment parts are located on MONITOR board.*

3.2.1 PLL (MONI)

Subject	• Camera picture • Gray scale
Mode	• EE
Equipment	• Oscilloscope
Measurement point	• IC7300 pin 24 (RPD)
Adjustment part	• R7338 (PLL MONI)
Specification	• A = B

1) Observe waveform at pin 24 of the IC7300.
2) For the waveform shown in the waveform chart (Fig. 3-2-2), equalize the width of A and B with each other by adjusting R7338.

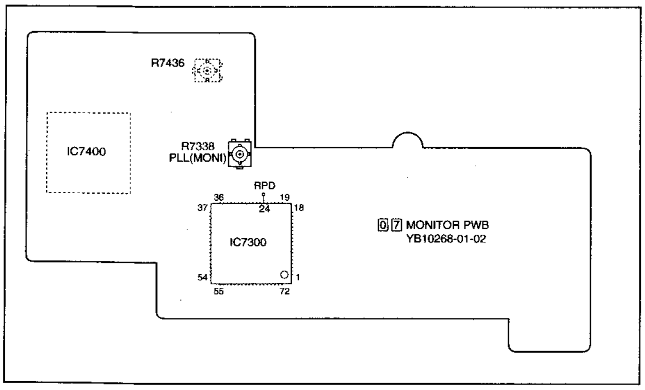

R7436
IC7400
R7338
PLL(MONI)
RPD
36
19
37
24
18
IC7300
54
1
55
72
07 MONITOR PWB
YB10268-01-02

Fig. 3-2-1 MONITOR board (FOIL SIDE)

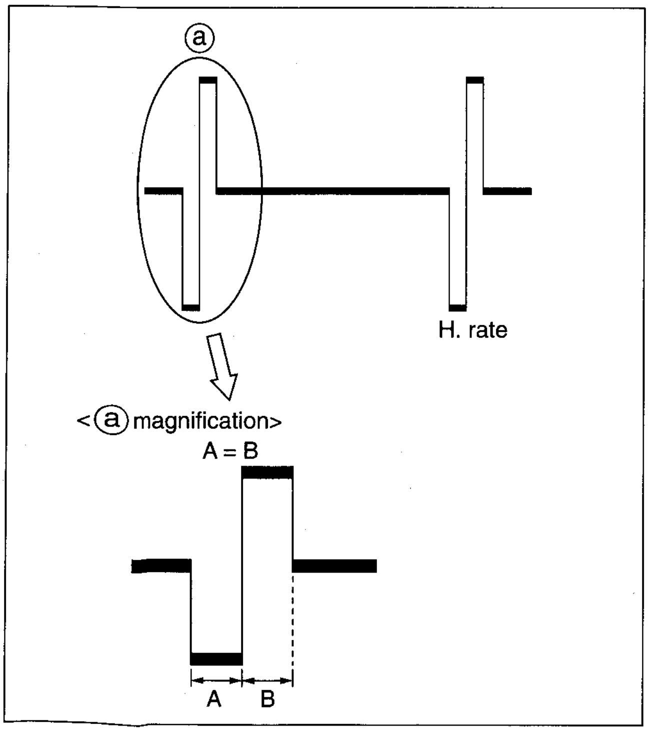

ⓐ
H. rate
<ⓐ magnification>
A = B
A
B

Fig. 3-2-2 PLL (MONI)

3.3 ELECTRONIC VIEWFINDER (E. VF) ADJUSTMENT

Note: *Unless otherwise specified, all measurement points and adjustment parts are located on MONITOR board.*

3.3.1 PLL (VF)

Subject	• Camera picture • Gray scale
Mode	• EE
Equipment	• Oscilloscope
Measurement point	• IC7400 pin 24 (RPD)
Adjustment part	• R7436 (PLL VF)
Specification	• A = B

1) Observe waveform at pin 24 of the IC7400.
2) For the waveform shown in the waveform chart (Fig. 3-3-2), equalize the width of A and B with each other by adjusting R7436.

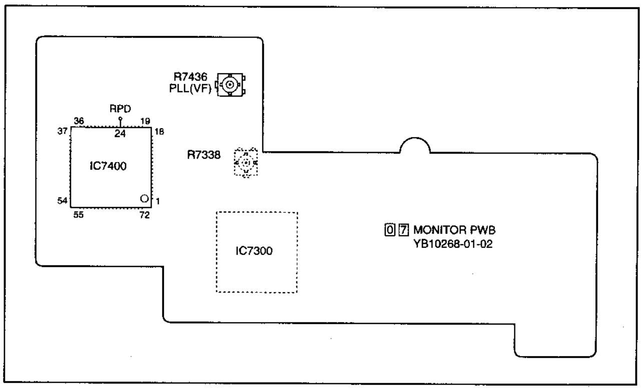

R7436
PLL(VF)
RPD
36
19
37
24
18
IC7400
R7338
54
1
55
72
IC7300
07 MONITOR PWB
YB10268-01-02

Fig. 3-3-1 MONITOR board (FOIL SIDE)

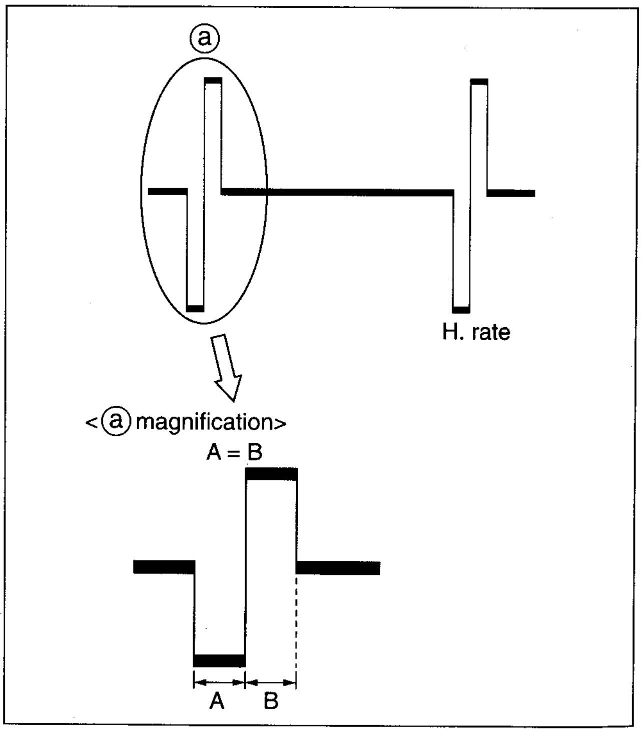
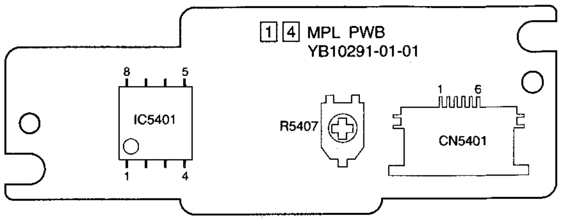

ⓐ
H. rate
<ⓐ magnification>
A = B
A
B

Fig. 3-3-2 PLL (VF)

3.4 MPL ADJUSTMENT

Notes:
- *This adjustment minimizes vertical line noise that appears at a low illuminance.*
- *Unless otherwise specified, all measurement points and adjustment parts are located on MPL board.*
- *Set the switches as shown below unless otherwise specified on the relevant adjustment chart. The switches that are not listed below can be set as desired.*

GAIN UP	AGC (ON)
SHUTTER SPPED	1/50



□1□4 MPL PWB
YB10291-01-01
8
5
IC5401
1
4
R5407
1
6
CN5401

Fig. 3-4-1 MPL board (COMPONENT SIDE)

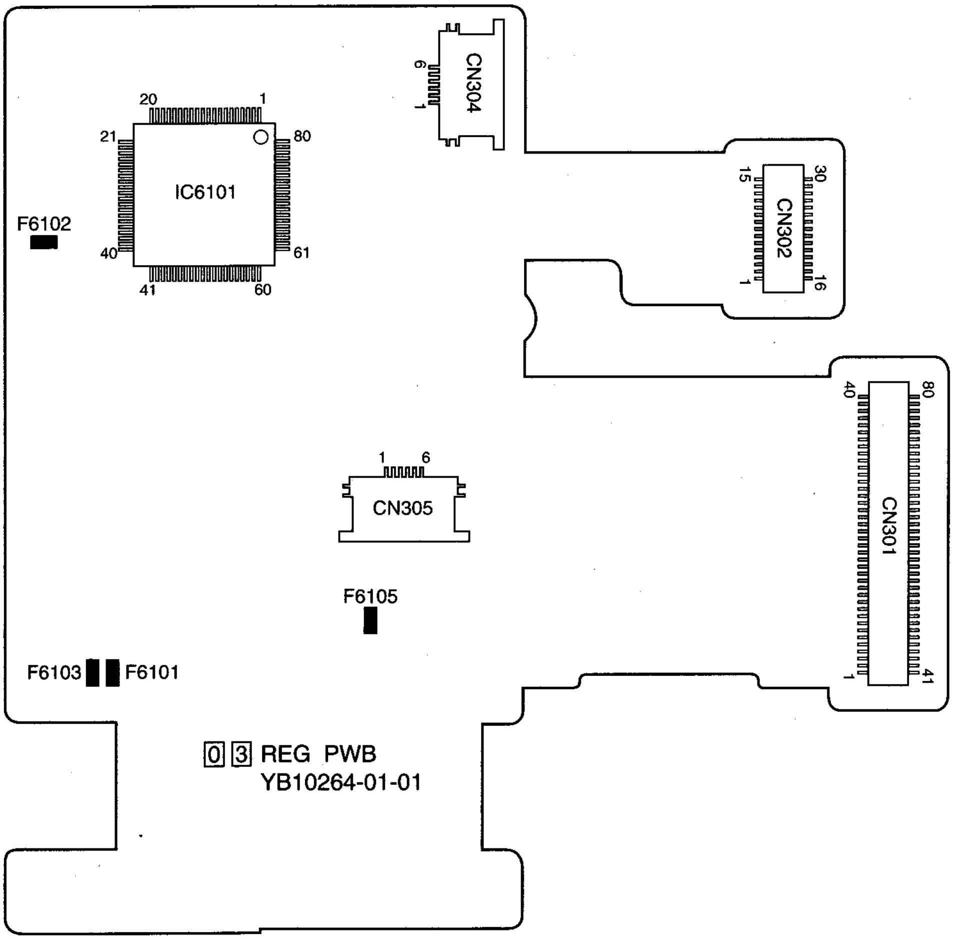
3.4.1 MPL

Subject	• Camera picture
Mode	• EE
Equipment	• –
Measurement point	• TV monitor
Adjustment part	• R5407 (MPL)
Specification	• Minimum level

1) While looking through the TV monitor, adjust the R5407 so that the vertical line noise is minimized.

3.5 FUSE LOCATION

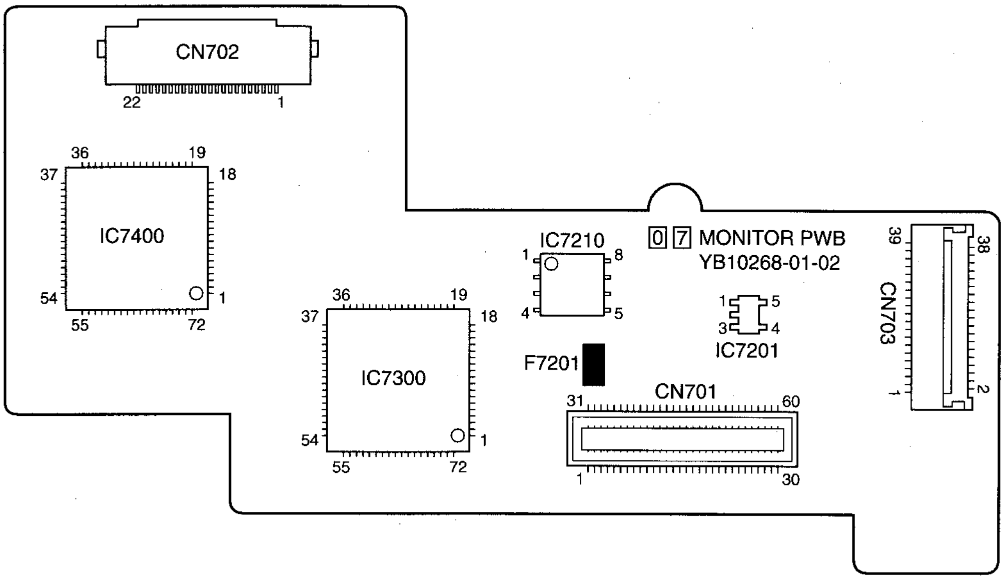
3.5.1 REG PWB (FOIL SIDE)



CN304
6
1
20
1
21
80
IC6101
F6102
40
61
41
60
CN302
15
30
1
16
CN301
40
80
1
41
CN305
1
6
F6105
F6103
F6101
□0□3 REG PWB
YB10264-01-01

Fig. 3-5-1 Fuse location for REG board assembly

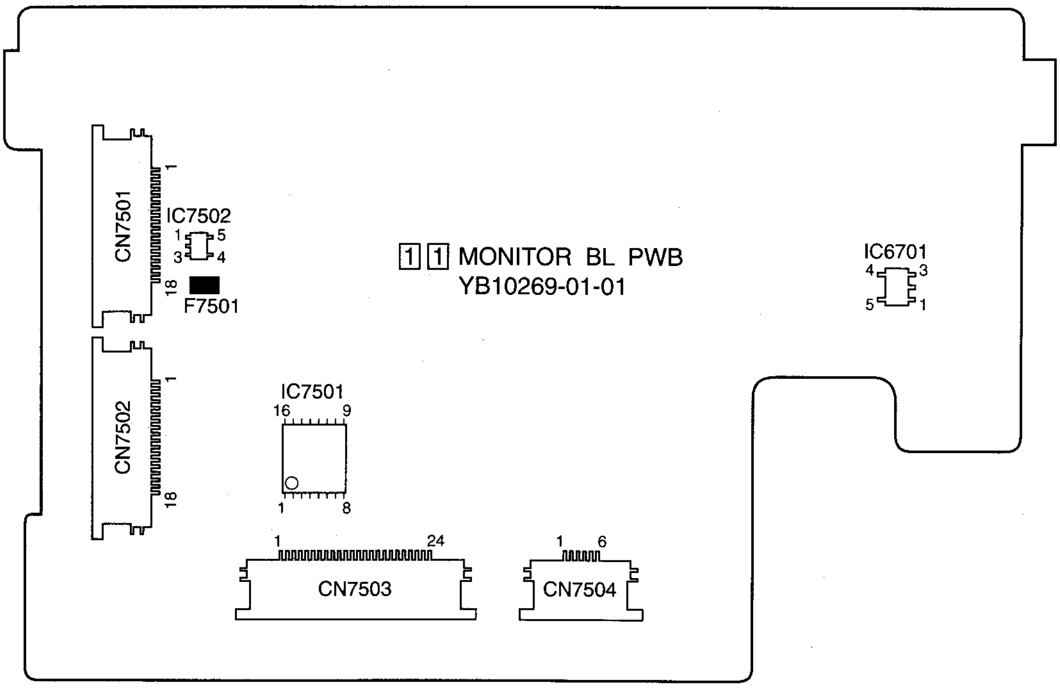
3.5.2 MONITOR PWB (FOIL SIDE)



CN702
22
1
36
19
37
18
IC7400
54
1
55
72
IC7210
1
8
4
5
0 7 MONITOR PWB
YB10268-01-02
39
38
CN703
1
2
36
19
37
18
IC7300
54
1
55
72
1
5
3
4
IC7201
F7201
CN701
31
60
1
30

Fig. 3-5-2 Fuse location for MONITOR board assembly

3.5.3 MONITOR PWB (COMPONENT SIDE)



CN7501
1
18
IC7502
1
5
3
4
F7501
1 1 MONITOR BL PWB
YB10269-01-01
IC6701
4
3
5
1
CN7502
1
18
IC7501
16
9
1
8
1
24
CN7503
1
6
CN7504

Fig. 3-5-3 Fuse location MONITOR BL board assembly

SECTION 4
CHARTS AND DIAGRAMS

NOTES OF SCHEMATIC DIAGRAM

Safety precautions
The Components identified by the symbol ⚠ are critical for safety. For continued safety, replace safety critical components only with manufacturer's recommended parts.

1. Units of components on the schematic diagram

Unless otherwise specified.

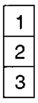
1) All resistance values are in ohm. 1/6 W, 1/8 W (refer to parts list).
   Chip resistors are 1/16 W.
   K: KΩ (1000Ω), M: MΩ (1000KΩ)
2) All capacitance values are in µF, (P: PF).
3) All inductance values are in µH, (m: mH).
4) All diodes are 1SS133, MA165 or 1N4148M (refer to parts list).

2. Indications of control voltage

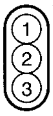
AUX : Active at high.

$\overline{\text{AUX}}$ or AUX(L) : Active at low.

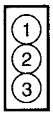
3. Interpreting Connector indications



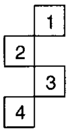
Removable connector



Wire soldered directly on board



Non-removable Board connector



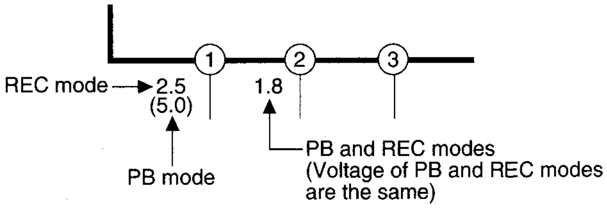
Board to Board

→
←
↔

Connected pattern on board
The arrows indicate signal path

4. Voltage measurement

1) Regulator (DC/DC CONV) circuits
   REC : Colour bar signal.
   PB : Alignment tape (Colour bar).
   — : Unmeasurable or unnecessary to measure.
4) Indication on schematic diagram
   Voltage Indications for REC and PB mode on the schematic diagram are as shown below.



Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.

5. Signal path Symbols

The arrows indicate the signal path as follows.

NOTE : The arrow is DVC unique object.

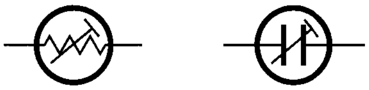
⇨	Playback signal path
▭▶	Playback and recording signal path
➡	Recording signal path (including E-E signal path)
⇨▷	Capstan servo path
➡▶	Drum servo path

(Example)

⇨	R-Y	Playback R-Y signal path
➡	Y	Recording Y signal path

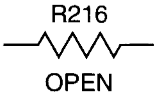
6. Indication of the parts for adjustments

The parts for the adjustments are surrounded with the circle as shown below.



7. Indication of the parts not mounted on the circuit board

"OPEN" is indicated by the parts not mounted on the circuit board.



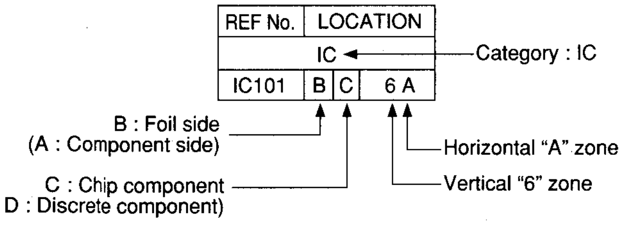
CIRCUIT BOARD NOTES

1. Foil and Component sides

1) Foil side (B side) :
   Parts on the foil side seen from foil face (pattern face) are indicated.
2) Component side (A side) :
   Parts on the component side seen from component face (parts face) indicated.

2. Parts location guides

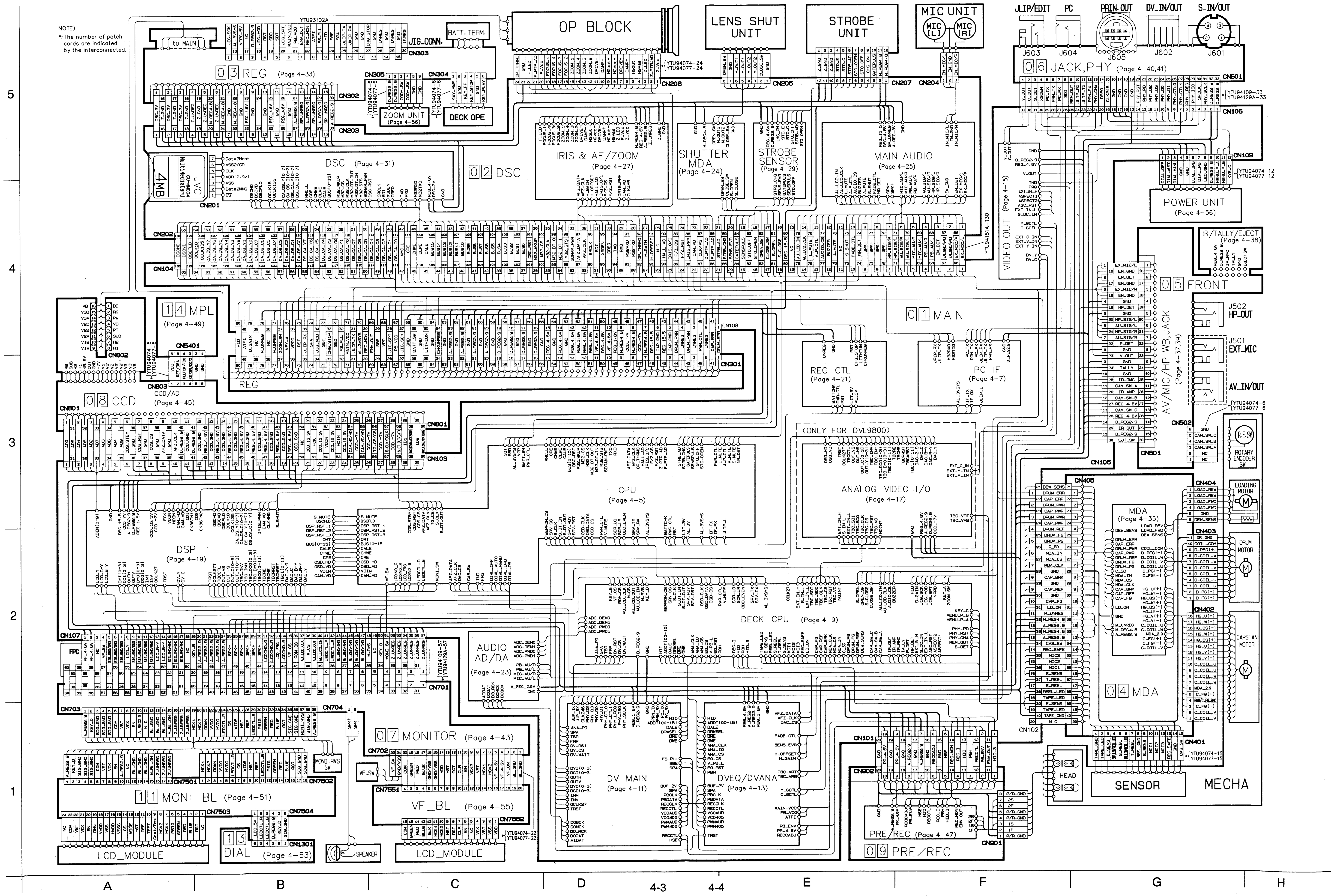
Parts location are indicated by guide scale on the circuit board.


REF No.
LOCATION
IC
Category : IC
IC101
B
C
6 A
B : Foil side
(A : Component side)
C : Chip component
D : Discrete component)
Horizontal "A" zone
Vertical "6" zone

Note: For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION Edition 4 No. 82054D (January 1994).

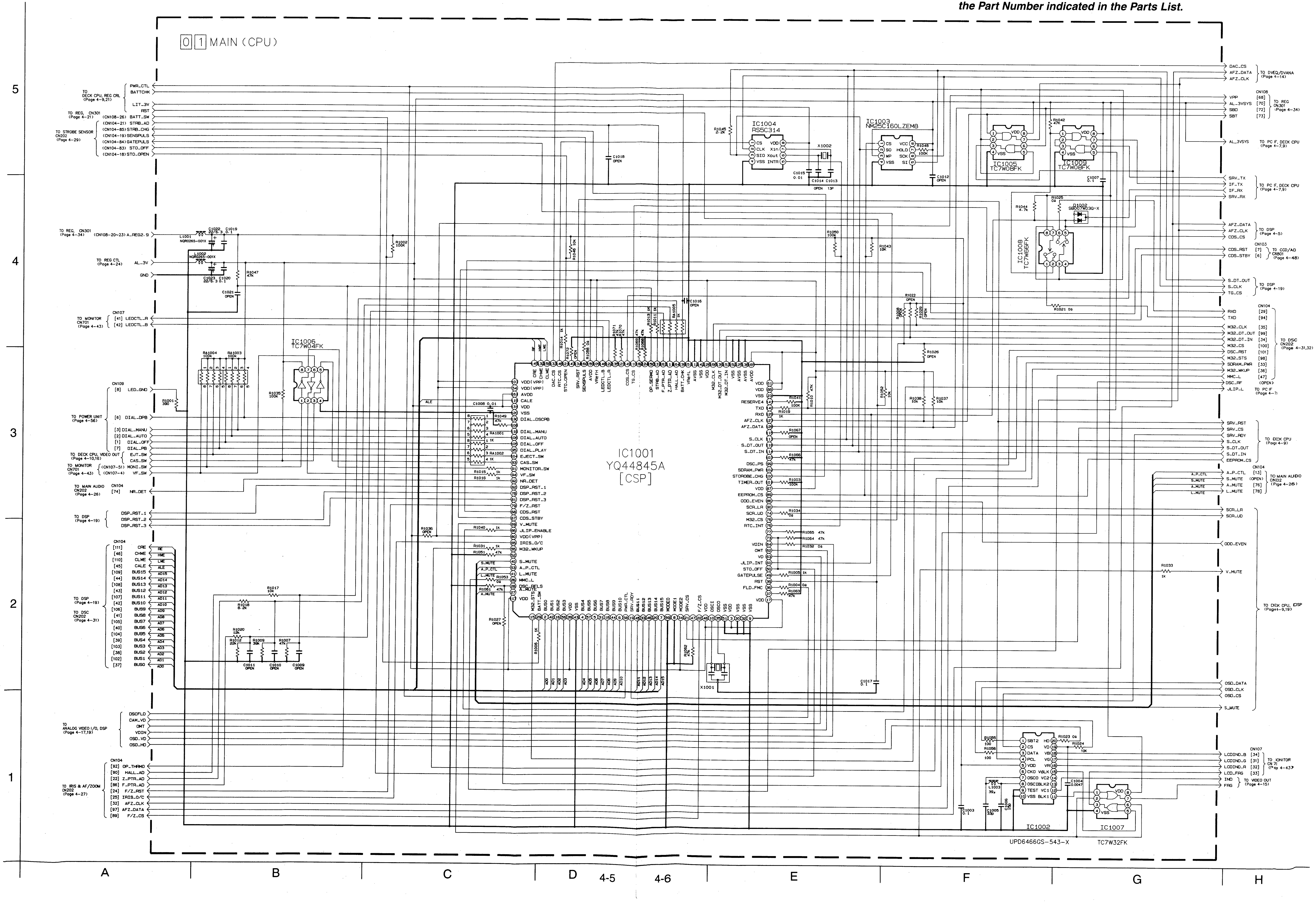
4.1 BOARD INTERCONNECTIONS

NOTE) * : The number of patch cords are indicated by interconnected.


NOTE)
*: The number of patch cords are indicated by the interconnected.
OP BLOCK
LENS SHUT UNIT
STROBE UNIT
MIC UNIT
JLIP/EDIT
PC
PRIN. OUT
DV_IN/OUT
S_IN/OUT
J603
J604
J605
J602
J601
06 JACK,PHY (Page 4-40,41)
JIG_CONN.
BATT. TERM.
to MAIN
03 REG (Page 4-33)
ZOOM UNIT (Page 4-56)
DECK OPE
02 DSC
DSC (Page 4-31)
IRIS & AF/ZOOM (Page 4-27)
SHUTTER MDA (Page 4-24)
STROBE SENSOR (Page 4-29)
MAIN AUDIO (Page 4-25)
POWER UNIT (Page 4-56)
VIDEO OUT (Page 4-15)
IR/TALLY/EJECT (Page 4-38)
05 FRONT
J502 HP_OUT
J501 EXT_MIC
AV_IN/OUT
AV/MIC/HP WB,JACK (Page 4-37,39)
14 MPL (Page 4-49)
01 MAIN
REG CTL (Page 4-21)
PC IF (Page 4-7)
REG
08 CCD
CCD/AD (Page 4-45)
(ONLY FOR DVL9800)
ANALOG VIDEO I/O (Page 4-17)
CPU (Page 4-5)
DSP (Page 4-19)
ROTARY ENCODER SW
LOADING MOTOR
DRUM MOTOR
CAPSTAN MOTOR
MDA (Page 4-35)
04 MDA
DECK CPU (Page 4-9)
AUDIO AD/DA (Page 4-23)
DV MAIN (Page 4-11)
DVEQ/DVANA (Page 4-13)
07 MONITOR (Page 4-43)
MONI_AVS SW
VF_SW
11 MONI BL (Page 4-51)
VF_BL (Page 4-55)
LCD_MODULE
13 DIAL (Page 4-53)
SPEAKER
PRE/REC (Page 4-47)
09 PRE/REC
HEAD
SENSOR
MECHA
4MB
YTU93102A
YTU94074-24 YTU94077-24
YTU94074-6 YTU94077-6
YTU94109-33 YTU94129A-33
YTU94074-12 YTU94077-12
YTU94151A-130
YTU94109-57 YTU94129A-57
YTU94074-22 YTU94077-22
YTU94074-15 YTU94077-15
CN101 CN102 CN103 CN104 CN105 CN106 CN107 CN108 CN109
CN201 CN202 CN203 CN204 CN205 CN206 CN207
CN301 CN302 CN303 CN304 CN305
CN401 CN402 CN403 CN404 CN405
CN501 CN502 CN601 CN701 CN702 CN703 CN704
CN801 CN802 CN803 CN901 CN902
CN1301 CN5401 CN7501 CN7502 CN7503 CN7504 CN7551 CN7552
1 2 3 4 5
A B C D E F G H

4.2 CPU SCHEMATIC DIAGRAM

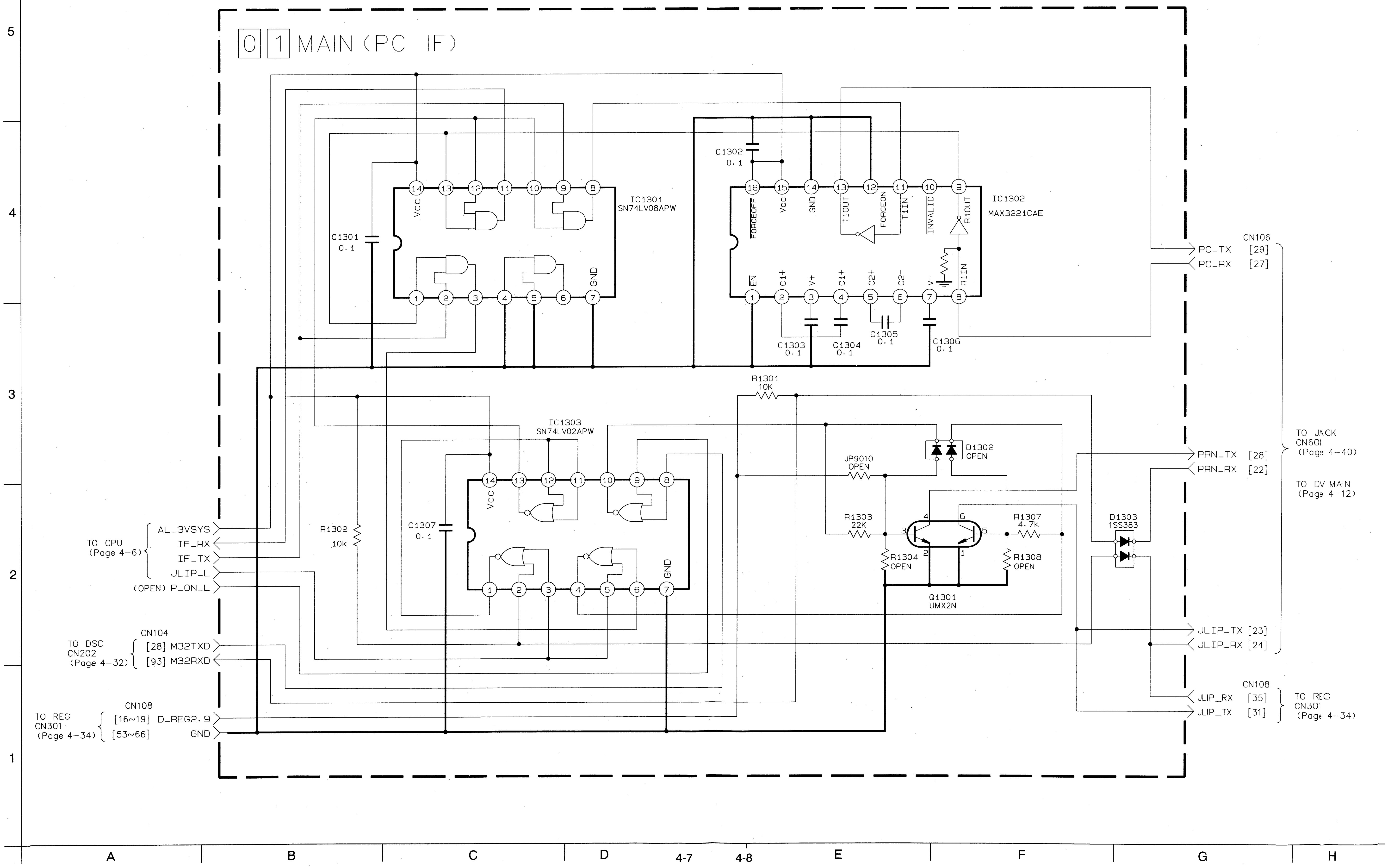
NOTE: When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



01 MAIN (CPU)
IC1001
YQ44845A
[CSP]
IC1002
UPD6466GS-543-X
IC1003
NM25C160LZEM8
IC1004
RS5C314
IC1005
TC7W08FK
IC1006
TC7W04FK
IC1007
TC7W32FK
IC1008
TC7W66FK
IC1009
TC7W08FK
X1001
X1002
TO DECK CPU, REG CRL (Page 4-9,21)
TO REG. CN301 (Page 4-21)
TO STROBE SENSOR CN202 (Page 4-29)
TO REG. CN301 (Page 4-34)
TO REG CTL (Page 4-24)
TO MONITOR CN701 (Page 4-43)
TO POWER UNIT (Page 4-56)
TO DECK CPU, VIDEO OUT (Page 4-10,16)
TO MONITOR CN701 (Page 4-43)
TO MAIN AUDIO CN202 (Page 4-26)
TO DSP (Page 4-19)
TO DSP (Page 4-19)
TO DSC CN202 (Page 4-31)
TO ANALOG VIDEO I/O, DSP (Page 4-17,19)
TO IRIS & AF/ZOOM CN202 (Page 4-27)
TO DVEQ/DVANA (Page 4-14)
TO REG CN301 (Page 4-34)
TO PC IF, DECK CPU (Page 4-7,9)
TO PC IF, DECK CPU (Page 4-7,9)
TO DSP (Page 4-5)
TO CCD/AD CN801 (Page 4-48)
TO DSP (Page 4-19)
TO DSC CN202 (Page 4-31,32)
TO PC IF (Page 4-7)
TO DECK CPU (Page 4-9)
TO MAIN AUDIO CN202 (Page 4-26)
TO DECK CPU, DSP (Page 4-9,19)
TO MONITOR CN701 (Page 4-43)
TO VIDEO OUT (Page 4-15)
A
B
C
D
E
F
G
H
1
2
3
4
5

4.3 PC IF SCHEMATIC DIAGRAM

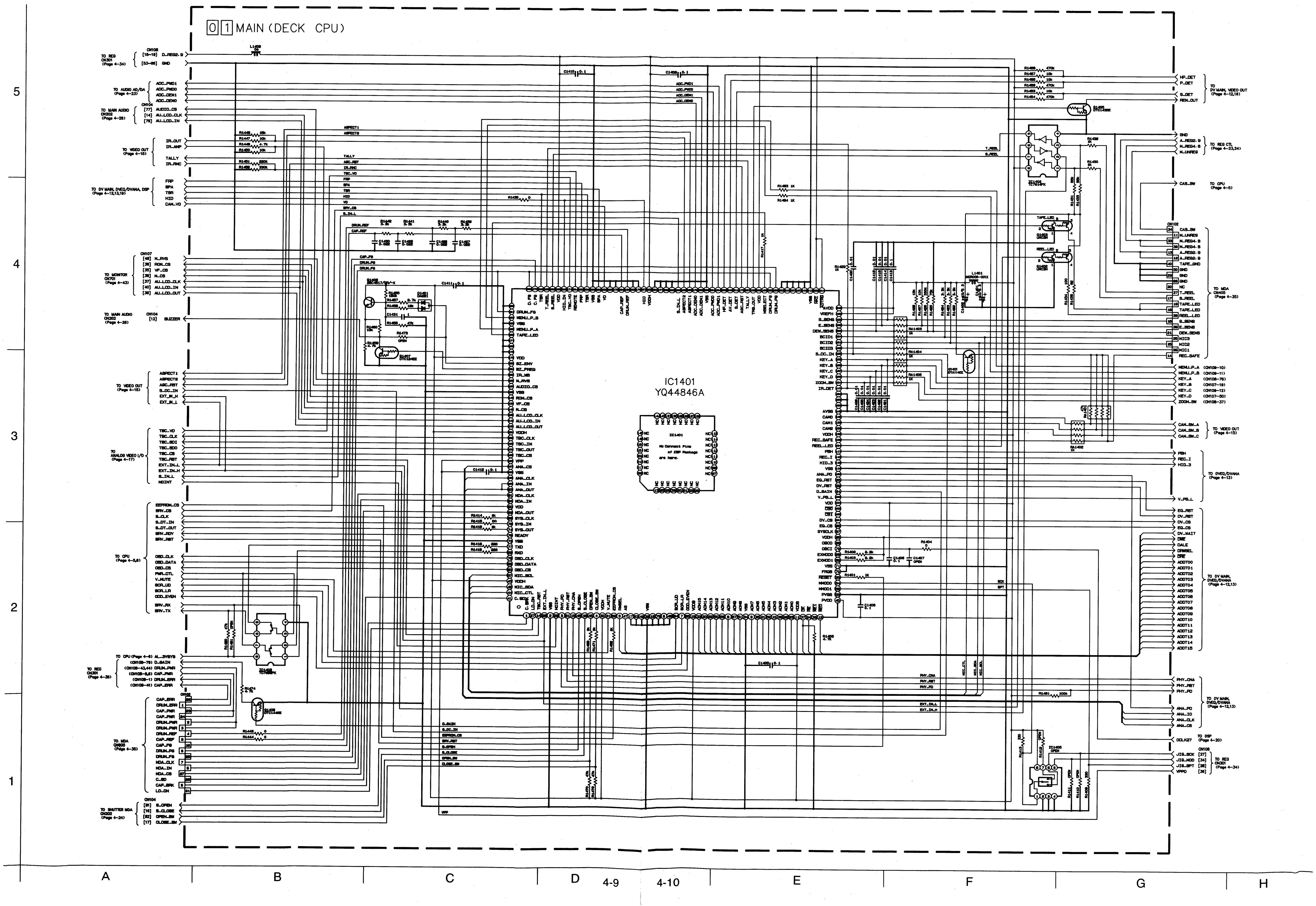
NOTE: When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



0 1 MAIN (PC IF)
IC1301
SN74LV08APW
IC1302
MAX3221CAE
IC1303
SN74LV02APW
C1301
0.1
C1302
0.1
C1303
0.1
C1304
0.1
C1305
0.1
C1306
0.1
C1307
0.1
R1301
10K
R1302
10k
R1303
22K
R1304
OPEN
R1307
4.7k
R1308
OPEN
JP9010
OPEN
D1302
OPEN
D1303
1SS383
Q1301
UMX2N
Vcc
GND
FORCEOFF
T1OUT
FORCEON
T1IN
INVALID
R1OUT
EN
C1+
V+
C1+
C2+
C2-
V-
R1IN
TO CPU
(Page 4-6)
AL_3VSYS
IF_RX
IF_TX
JLIP_L
(OPEN) P_ON_L
TO DSC
CN202
(Page 4-32)
CN104
[28] M32TXD
[93] M32RXD
TO REG
CN301
(Page 4-34)
CN108
[16~19] D_REG2.9
[53~66] GND
CN106
PC_TX [29]
PC_RX [27]
PRN_TX [28]
PRN_RX [22]
JLIP_TX [23]
JLIP_RX [24]
TO JACK
CN601
(Page 4-40)
TO DV MAIN
(Page 4-12)
CN108
JLIP_RX [35]
JLIP_TX [31]
TO REG
CN301
(Page 4-34)
A
B
C
D
E
F
G
H
1
2
3
4
5

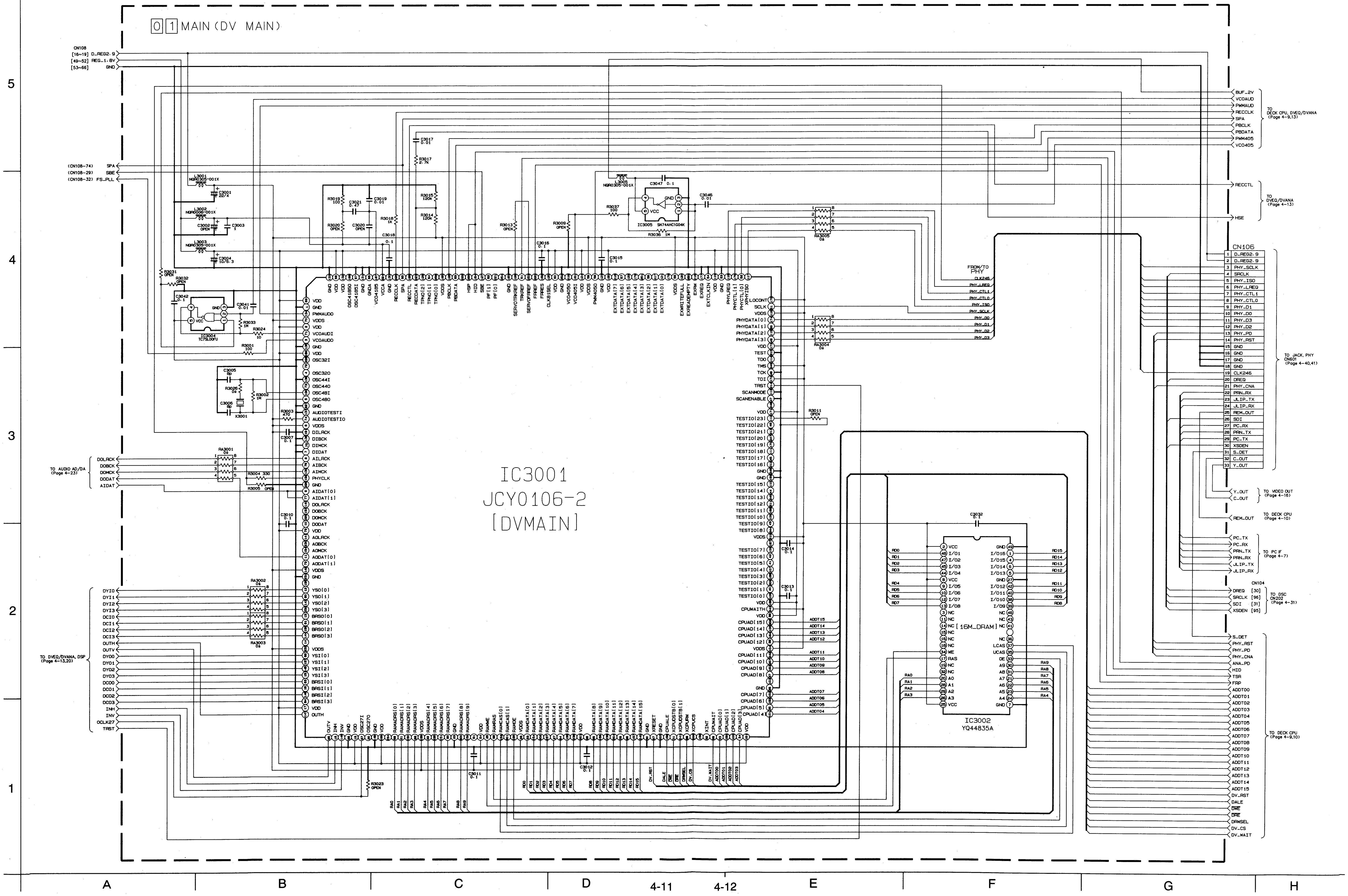
4.4 DECK CPU SCHEMATIC DIAGRAM

***NOTE:** When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*


0 1 MAIN (DECK CPU)
IC1401
YQ44846A
TO REG CN301 (Page 4-34)
TO AUDIO AD/DA (Page 4-23)
TO MAIN AUDIO CN202 (Page 4-28)
TO VIDEO OUT (Page 4-15)
TO DV MAIN, DVEO/DVANA, DSP (Page 4-12,13,19)
TO MONITOR CN701 (Page 4-43)
TO MAIN AUDIO CN202 (Page 4-28)
TO VIDEO OUT (Page 4-15)
TO ANALOG VIDEO I/O (Page 4-17)
TO CPU (Page 4-5,6)
TO REG CN301 (Page 4-38)
TO MDA CN400 (Page 4-35)
TO SHUTTER MDA CN302 (Page 4-24)
TO DV MAIN, VIDEO OUT (Page 4-12,15)
TO REG CTL (Page 4-23,24)
TO CPU (Page 4-5)
TO MDA CN405 (Page 4-35)
TO VIDEO OUT (Page 4-15)
TO DVEO/DVANA (Page 4-13)
TO DV MAIN, DVEO/DVANA (Page 4-12,13)
TO DV MAIN, DVEO/DVANA (Page 4-12,13)
TO DSP (Page 4-20)
TO REG CN301 (Page 4-34)
5
4
3
2
1
A
B
C
D
E
F
G
H

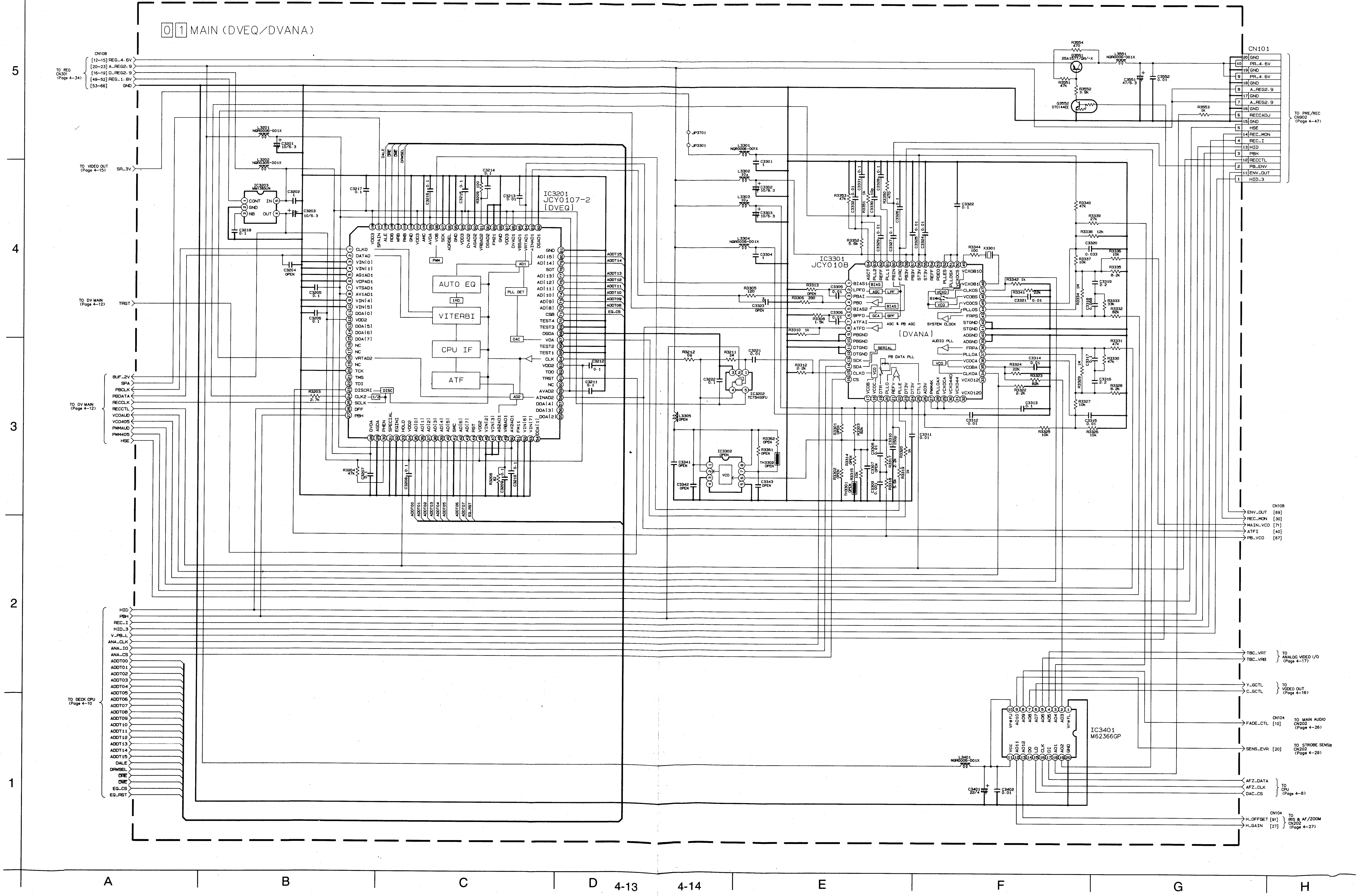
4.5 DV MAIN SCHEMATIC DIAGRAM

NOTE: When ordering parts, be sure to order according to the Part Number indicated in the Parts List.


01 MAIN (DV MAIN)
IC3001
JCY0106-2
[DVMAIN]
IC3002
YQ44835A
[16M_DRAM]
IC3004
TC7SL00FU
IC3005 SN74AHC1G04K
CN108
[16~19] D_REG2.9
[49~52] REG_1.8V
[53~66] GND
(CN108-74) SPA
(CN108-29) SBE
(CN108-32) FS_PLL
BUF_2V
VCOAUD
PWMAUD
RECCLK
SPA
PBCLK
PBDATA
PWM405
VCO405
TO DECK CPU, DVEQ/DVANA (Page 4-9,13)
RECCTL
HSE
TO DVEQ/DVANA (Page 4-13)
CN106
1 D_REG2.9
2 D_REG2.9
3 PHY_SCLK
4 SRCLK
5 PHY_ISO
6 PHY_LREQ
7 PHY_CTL1
8 PHY_CTL0
9 PHY_D1
10 PHY_D0
11 PHY_D3
12 PHY_D2
13 PHY_PD
14 PHY_RST
15 GND
16 GND
17 GND
18 GND
19 CLK246
20 DREQ
21 PHY_CNA
22 PRN_RX
23 JLIP_TX
24 JLIP_RX
25 REM_OUT
26 SDI
27 PC_RX
28 PRN_TX
29 PC_TX
30 XSDEN
31 S_DET
32 C_OUT
33 Y_OUT
TO JACK, PHY CN601 (Page 4-40,41)
FROM/TO PHY
Y_OUT
C_OUT
TO VIDEO OUT (Page 4-16)
REM_OUT
TO DECK CPU (Page 4-10)
PC_TX
PC_RX
PRN_TX
PRN_RX
JLIP_TX
JLIP_RX
TO PC IF (Page 4-7)
CN104
DREQ [30]
SRCLK [96]
SDI [31]
XSDEN [95]
TO DSC CN202 (Page 4-31)
S_DET
PHY_RST
PHY_PD
PHY_CNA
ANA_PD
HID
TSR
FRP
ADDT00
ADDT01
ADDT02
ADDT03
ADDT04
ADDT05
ADDT06
ADDT07
ADDT08
ADDT09
ADDT10
ADDT11
ADDT12
ADDT13
ADDT14
ADDT15
DV_RST
DALE
DWE
DRE
DRMSEL
DV_CS
DV_WAIT
TO DECK CPU (Page 4-9,10)
DOLRCK
DOBCK
DOMCK
DODAT
AIDAT
TO AUDIO AD/DA (Page 4-23)
DYI0
DYI1
DYI2
DYI3
DCI0
DCI1
DCI2
DCI3
OUTH
OUTV
DYO0
DYO1
DYO2
DYO3
DCO0
DCO1
DCO2
DCO3
INH
INV
OCLK27
TRST
TO DVEQ/DVANA, DSP (Page 4-13,20)
L3001 NQR0305-001X
L3002 NQR0305-001X
L3003 NQR0305-001X
L3005 NQR0305-001X
X3001
RA3001
RA3002
RA3003
RA3004
RA3005
5
4
3
2
1
A
B
C
D
E
F
G
H

4.6 DVEQ/DVANA SCHEMATIC DIAGRAM

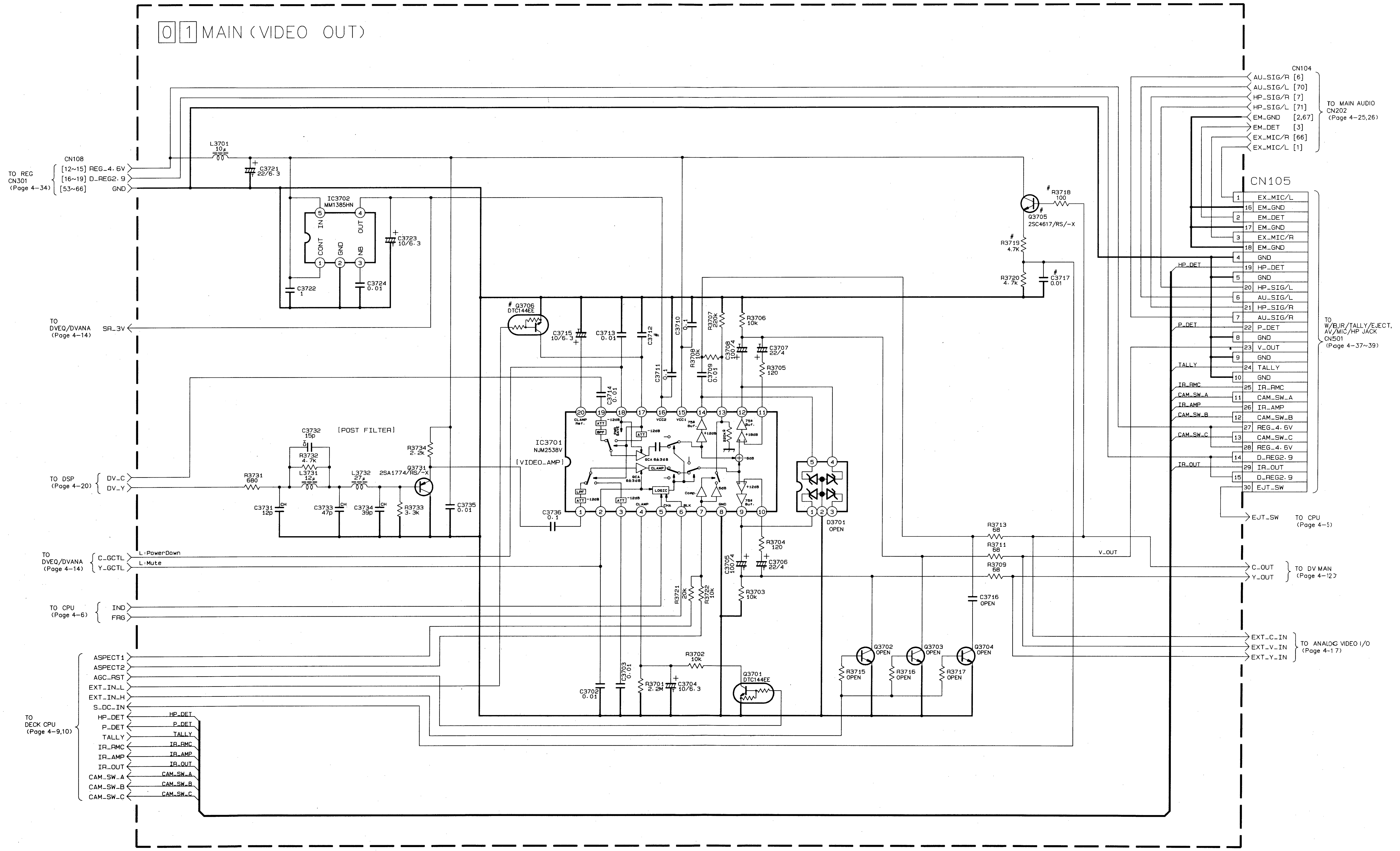
NOTE: When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



01 MAIN (DVEQ/DVANA)
CN108
[12-15] REG_4.6V
[20-23] A_REG2.9
[16-19] D_REG2.9
[49-52] REG_1.8V
[53-66] GND
TO REG CN301 (Page 4-34)
TO VIDEO OUT (Page 4-15)
SR_3V
TO DV MAIN (Page 4-12)
TRST
BUF_2V
SPA
PBCLK
PBDATA
RECCLK
RECCTL
VCOAUD
VCO405
PWMAUD
PWM405
HSE
TO DV MAIN (Page 4-12)
HID
PBH
REC_I
HID_3
V_PB_L
ANA_CLK
ANA_IO
ANA_CS
ADDT00
ADDT01
ADDT02
ADDT03
ADDT04
ADDT05
ADDT06
ADDT07
ADDT08
ADDT09
ADDT10
ADDT11
ADDT12
ADDT13
ADDT14
ADDT15
DALE
DRWSEL
DRE
DWE
EQ_CS
EQ_RST
TO DECK CPU (Page 4-10)
IC3203 MM1380UN
L3201 NQR0006-001X
L3202 NQR0305-001X
C3201 10/6.3
C3202 1
C3203 10/6.3
C3218 0.1
C3204 OPEN
C3205 0.1
C3206 0.1
C3217 0.1
C3214 0.1
C3213 0.1
IC3201 JCY0107-2 [DVEQ]
AUTO EQ
VITERBI
CPU IF
ATF
PLL DET
PWM
DAC
DISC
AD1
AD2
R3203 2.7k
R3204 47k
C3207
C3208 0.1
C3209 0.1
C3210 0.1
C3211 0.1
C3212 0.1
ADDT00
ADDT01
ADDT02
ADDT03
ADDT04
ADDT05
ADDT06
ADDT07
EQ_RST
JP3701
JP3301
L3301 NQR0006-001X
L3302 10μ
L3303 10μ
L3304 NQR0006-001X
C3301 1
C3302 10/6.3
C3303 10/6.3
C3304 1
L3305 OPEN
R3212 0Ω
R3211 1M
C3221 0.01
C3222 0.1
IC3202 TC7SH00FU
IC3302 OPEN
C3341 OPEN
C3342 OPEN
C3343 OPEN
R3362 OPEN
R3361 OPEN
TH3302 OPEN
TH3301
IC3301 JCY0108 [DVANA]
BIAS
LPF
AGC
BIAS
BPF
GCA
AGC & PB AGC
SYSTEM CLOCK
AUDIO PLL
SERIAL
PB DATA PLL
VCXO
VCO
VCO
X3301
R3344 100
R3342 1k
R3341 22k
C3321 0.01
R3340 47k
R3339 27k
R3338 12k
C3320 0.033
R3337 10k
R3336 10k
R3335 8.2k
R3334 1M
C3319 2.2
R3333 33k
R3332 82k
R3331 47k
R3330 47k
R3329 1M
C3316 2.2
R3328 8.2k
R3327 10k
C3315 0.01
R3326 10k
R3325 10k
C3314 0.01
R3324 22k
R3323 82k
R3322 2.2k
C3313 0.1
C3312 0.01
C3311 0.01
R3313 OPEN
R3305 120
R3306 390
C3305 0.01
C3306 0.01
C3323 OPEN
R3308 1.5k
R3310 1k
R3312 2.2k
R3353 47k
R3352 5.6k
R3351 1k
R3350 470
C3322 0.1
R3301
R3302
R3303 82k
R3314
R3315 10k
R3316
R3317
R3318
R3319 1k
R3320
C3307
C3308
C3309
C3310
R3554 470
Q3551 2SA1577/QR/-X
R3551 47k
R3552 3.9k
Q3552 DTC144EE
L3551 NQR0005-001X
C3551 47/6.3
C3552 0.01
R3553 1K
CN101
20 GND
10 PR_4.6V
19 GND
9 PR_4.6V
18 GND
8 A_REG2.9
17 GND
7 A_REG2.9
16 GND
6 RECCADJ
15 GND
5 HSE
14 REC_MON
4 REC_I
13 HID
3 PBH
12 RECCTL
2 PB_ENV
11 ENV_OUT
1 HID_3
TO PRE/REC CN902 (Page 4-47)
CN108
ENV_OUT [69]
REC_MON [30]
MAIN_VCO [71]
ATFI [40]
PB_VCO [67]
TBC_VRT
TBC_VRB
TO ANALOG VIDEO I/O (Page 4-17)
Y_GCTL
C_GCTL
TO VIDEO OUT (Page 4-16)
CN104
FADE_CTL [10]
TO MAIN AUDIO CN202 (Page 4-26)
SENS_EVR [20]
TO STROBE SENSOR CN202 (Page 4-29)
AFZ_DATA
AFZ_CLK
DAC_CS
TO CPU (Page 4-6)
CN104
H_OFFSET [91]
H_GAIN [27]
TO IRIS & AF/ZOOM CN202 (Page 4-27)
IC3401 M62366GP
L3401 NQR0005-001X
C3401 22/4
C3402 0.01
5
4
3
2
1
A
B
C
D
E
F
G
H

4.7 VIDEO OUT SCHEMATIC DIAGRAM

NOTE: When ordering parts, be sure to order according to the Part Number indicated in the Parts List.


0 1 MAIN (VIDEO OUT)
TO REG CN301 (Page 4-34)
CN108
[12~15] REG_4.6V
[16~19] D_REG2.9
[53~66] GND
L3701 10μ
C3721 22/6.3
IC3702 MM1385HN
IN
OUT
CONT
GND
NB
C3723 10/6.3
C3722 1
C3724 0.01
TO DVEQ/DVANA (Page 4-14) SA_3V
TO DSP (Page 4-20) DV_C DV_Y
C3732 15p
[POST FILTER]
R3732 4.7k
L3731 12μ
R3731 680
L3732 27μ
R3734 2.2k
Q3731 2SA1774/RS/-X
C3731 12p
C3733 47p
C3734 39p
R3733 3.3k
C3735 0.01
CH
TO DVEQ/DVANA (Page 4-14) C_GCTL Y_GCTL
L:PowerDown
L:Mute
TO CPU (Page 4-6) IND FRG
TO DECK CPU (Page 4-9,10)
ASPECT1
ASPECT2
AGC_RST
EXT_IN_L
EXT_IN_H
S_DC_IN
HP_DET
P_DET
TALLY
IR_RMC
IR_AMP
IR_OUT
CAM_SW_A
CAM_SW_B
CAM_SW_C
# Q3706 DTC144EE
C3715 10/6.3
C3713 0.01
C3712 #
C3710 0.1
C3711 0.1
C3714 0.01
R3707 220k
R3708 10k
C3709 0.01
C3708 100/4
R3706 10k
C3707 22/4
R3705 120
IC3701 NJM2538V [VIDEO_AMP]
CLAMP Ref.
ATT
BPF
PWR SAVE
-12dB
VCC2
VCC1
75Ω Buf.
+12dB
+18dB
220kΩ
-6dB
GCA 6±3dB
CLAMP
LOGIC
LPF
CHA
BLK
GND
Comp.
6dB
C3736 0.1
D3701 OPEN
R3704 120
C3705 100/4
C3706 22/4
R3703 10k
R3721 20k
R3722 10k
R3702 10k
Q3701 DTC144EE
C3702 0.01
C3703 0.01
R3701 2.2M
C3704 10/6.3
Q3702 OPEN
Q3703 OPEN
Q3704 OPEN
R3715 OPEN
R3716 OPEN
R3717 OPEN
C3716 OPEN
R3713 68
R3711 68
R3709 68
V_OUT
# R3718 100
# Q3705 2SC4617/RS/-X
# R3719 4.7K
R3720 4.7k
# C3717 0.01
CN104
AU_SIG/R [6]
AU_SIG/L [70]
HP_SIG/R [7]
HP_SIG/L [71]
EM_GND [2,67]
EM_DET [3]
EX_MIC/R [66]
EX_MIC/L [1]
TO MAIN AUDIO CN202 (Page 4-25,26)
CN105
1 EX_MIC/L
16 EM_GND
2 EM_DET
17 EM_GND
3 EX_MIC/R
18 EM_GND
4 GND
19 HP_DET
5 GND
20 HP_SIG/L
6 AU_SIG/L
21 HP_SIG/R
7 AU_SIG/R
22 P_DET
8 GND
23 V_OUT
9 GND
24 TALLY
10 GND
25 IR_RMC
11 CAM_SW_A
26 IR_AMP
12 CAM_SW_B
27 REG_4.6V
13 CAM_SW_C
28 REG_4.6V
14 D_REG2.9
29 IR_OUT
15 D_REG2.9
30 EJT_SW
TO W/B,IR/TALLY/EJECT, AV/MIC/HP JACK CN501 (Page 4-37~39)
EJT_SW TO CPU (Page 4-5)
C_OUT Y_OUT TO DV MAIN (Page 4-12)
EXT_C_IN EXT_V_IN EXT_Y_IN TO ANALOG VIDEO I/O (Page 4-17)
5
4
3
2
1

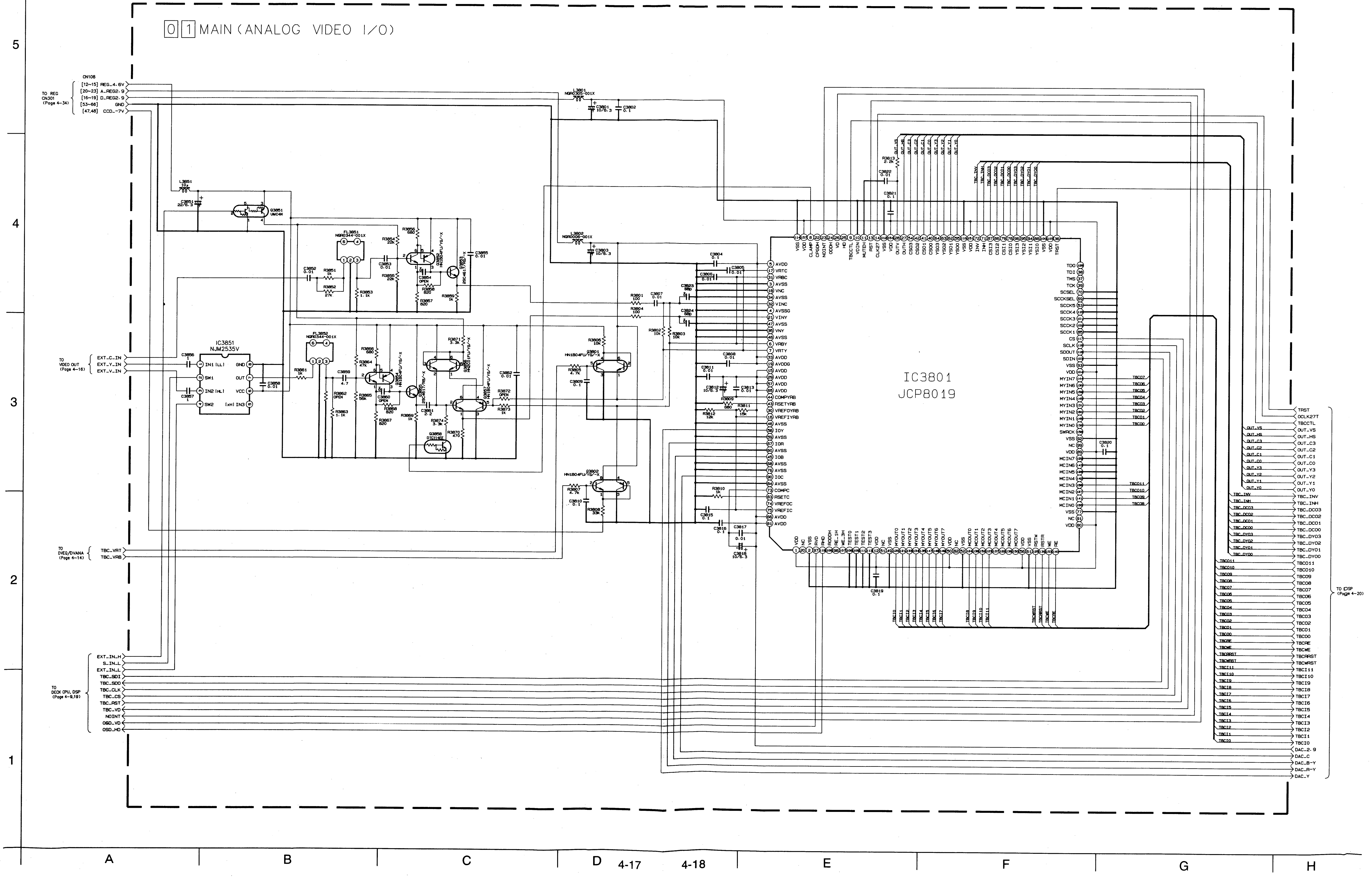
NOTE : COMPARISON CHART OF MODELS & MARKS (#).

REF No. / MODELS	Q3705 Q3706	R3718 R3719	C3712	C3717
GR-DVL9700	OPEN	OPEN	0Ω	OPEN
GR-DVL9800	USED	USED	0.01	USED

4.8 ANALOG VIDEO I/O SCHEMATIC DIAGRAM

(For GR-DVL9800)

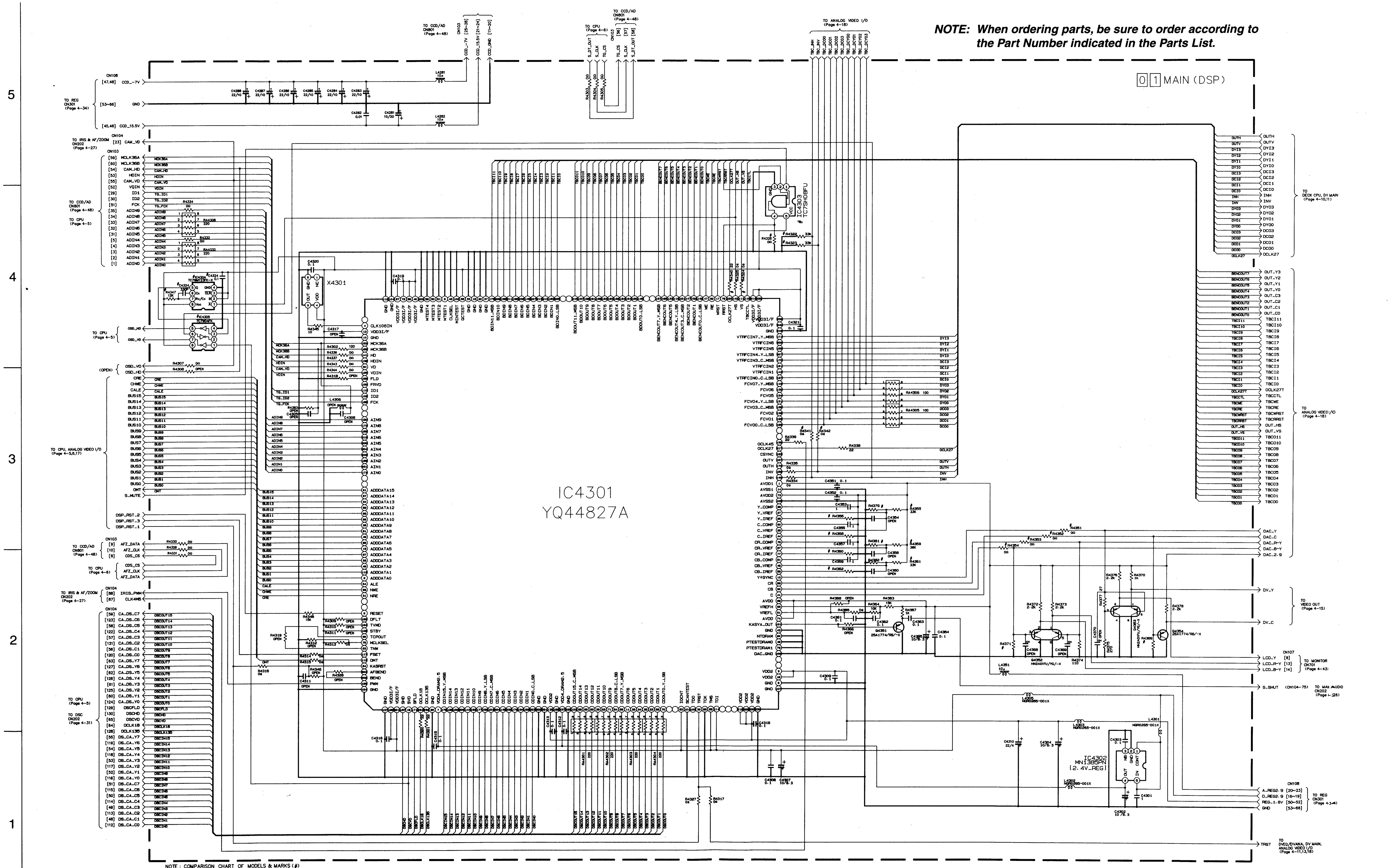
***NOTE:** When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*



0 1 MAIN (ANALOG VIDEO I/O)
CN108
TO REG CN301 (Page 4-34)
[12~15] REG_4.6V
[20~23] A_REG2.9
[16~19] D_REG2.9
[53~66] GND
[47,48] CCD_-7V
TO VIDEO OUT (Page 4-16)
EXT_C_IN
EXT_Y_IN
EXT_V_IN
TO DVEQ/DVANA (Page 4-14)
TBC_VRT
TBC_VRB
TO DECK CPU, DSP (Page 4-9,19)
EXT_IN_H
S_IN_L
EXT_IN_L
TBC_SDI
TBC_SDO
TBC_CLK
TBC_CS
TBC_RST
TBC_VD
NOINT
OSD_VD
OSD_HD
IC3851 NJM2535V
IN1 (L L)
SW1
IN2 (H L)
SW2
GND
OUT
VCC
(x H) IN3
Q3851 UMC4N
FL3851 NQR0344-001X
FL3852 NQR0344-001X
L3851 10μ
L3801 NQR0305-001X
L3802 NQR0006-001X
Q3853 2SC4617/QR/-X
Q3856 DTC114EE
Q3801 HN1B04FU/YB/-X
Q3802 HN1B04FU/YB/-X
IC3801
JCP8019
AVDD
VRTC
VRBC
AVSS
VNC
VINC
AVSSG
VINY
VNY
VRBY
VRTY
AVDDG
COMPYRB
RSETYRB
VREFOYRB
VREFIYRB
IOY
IOR
IOB
IOC
COMPC
RSETC
VREFOC
VREFIC
TDO
TDI
TMS
TCK
SCSEL
SCCKSEL
SCCK5
SCCK4
SCCK3
SCCK2
SCCK1
CS
SCLK
SDOUT
SDIN
VSS
VDD
MYIN7
MYIN6
MYIN5
MYIN4
MYIN3
MYIN2
MYIN1
MYIN0
SWRCK
NC
MCIN7
MCIN6
MCIN5
MCIN4
MCIN3
MCIN2
MCIN1
MCIN0
TRST
OCLK27T
TBCCTL
OUT_VS
OUT_HS
OUT_C3
OUT_C2
OUT_C1
OUT_C0
OUT_Y3
OUT_Y2
OUT_Y1
OUT_Y0
TBC_INV
TBC_INH
TBC_DC03
TBC_DC02
TBC_DC01
TBC_DC00
TBC_DY03
TBC_DY02
TBC_DY01
TBC_DY00
TBC011
TBC010
TBC09
TBC08
TBC07
TBC06
TBC05
TBC04
TBC03
TBC02
TBC01
TBC00
TBCRE
TBCWE
TBCRRST
TBCWRST
TBCI11
TBCI10
TBCI9
TBCI8
TBCI7
TBCI6
TBCI5
TBCI4
TBCI3
TBCI2
TBCI1
TBCI0
DAC_2.9
DAC_C
DAC_B-Y
DAC_R-Y
DAC_Y
TO DSP (Page 4-20)
5
4
3
2
1
A
B
C
D
E
F
G
H

4.9 DSP SCHEMATIC DIAGRAM

NOTE: When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



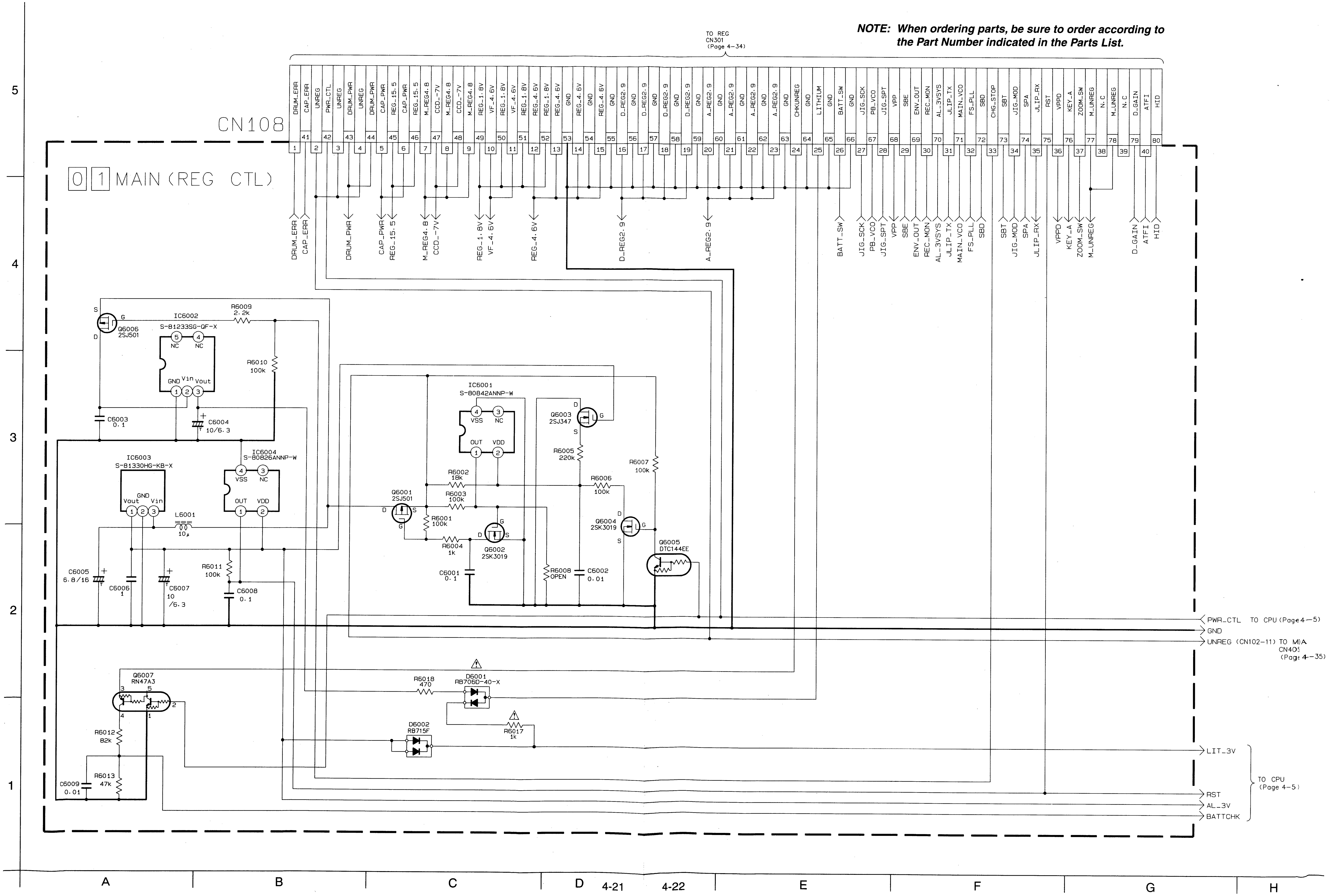
01 MAIN (DSP)
IC4301
YQ44827A
IC4302
MN1385PN
(2.4V_REG)
IC4303
TC7SH08FU
#IC4304
TC7WM123FU
X4301
CN108
TO REG
CN301
(Page 4-34)
[47,48] CCD_-7V
[53~66] GND
[45,46] CCD_15.5V
CN104
TO IRIS & AF/ZOOM
CN202
(Page 4-27)
[23] CAM_VD
CN103
TO CCD/AD
CN801
(Page 4-48)
TO CPU
(Page 4-5)
[59] MCLK36A
[60] MCLK36B
[54] CAM_HD
[53] HDIN
[55] CAM_VD
[52] VDIN
[29] ID1
[30] ID2
[51] FCK
[35] ADIN9
[34] ADIN8
[33] ADIN7
[32] ADIN6
[31] ADIN5
[5] ADIN4
[4] ADIN3
[3] ADIN2
[2] ADIN1
[1] ADIN0
TO CPU, ANALOG VIDEO I/O
(Page 4-5,6,17)
TO DECK CPU, DV MAIN
(Page 4-10,11)
TO ANALOG VIDEO I/O
(Page 4-18)
TO VIDEO OUT
(Page 4-15)
TO MONITOR
CN701
(Page 4-43)
LCD_Y [8]
LCD_R-Y [13]
LCD_B-Y [14]
S_SHUT (CN104-75)
TO MAIN AUDIO
CN202
(Page 4-26)
A_REG2.9 [20~23]
D_REG2.9 [16~19]
REG_1.8V [50~52]
GND [53~66]
TO REG
CN301
(Page 4-34)
TRST
TO
DVEQ/DVANA, DV MAIN,
ANALOG VIDEO I/O
(Page 4-11,13,18)
TO DSC
CN202
(Page 4-31)
5
4
3
2
1
A
B
C
D
E
F
G
H

NOTE : COMPARISON CHART OF MODELS & MARKS (#)

REF No. / MODELS	IC4303	IC4304 IC4305	R4322 ~ R4324	R4326	R4340 ~ R4342	R4347	R4351 ~ R4355	R4356	R4358	R4359 R4361	R4360	R4362	R4369	R4371	R4379	R4381	R4382	C4323 C4324
GR-DVL9700	OPEN	USED	OPEN	USED	OPEN	USED	USED	2.7K	2.7K	USED	16K	2.7K	180	130	27K	33K	27K	USED
GR-DVL9800	USED	OPEN	USED	OPEN	USED	OPEN	OPEN	33K	16K	OPEN	2.7K	16K	100	150	33K	27K	33K	OPEN

4.10 REG CTL SCHEMATIC DIAGRAM

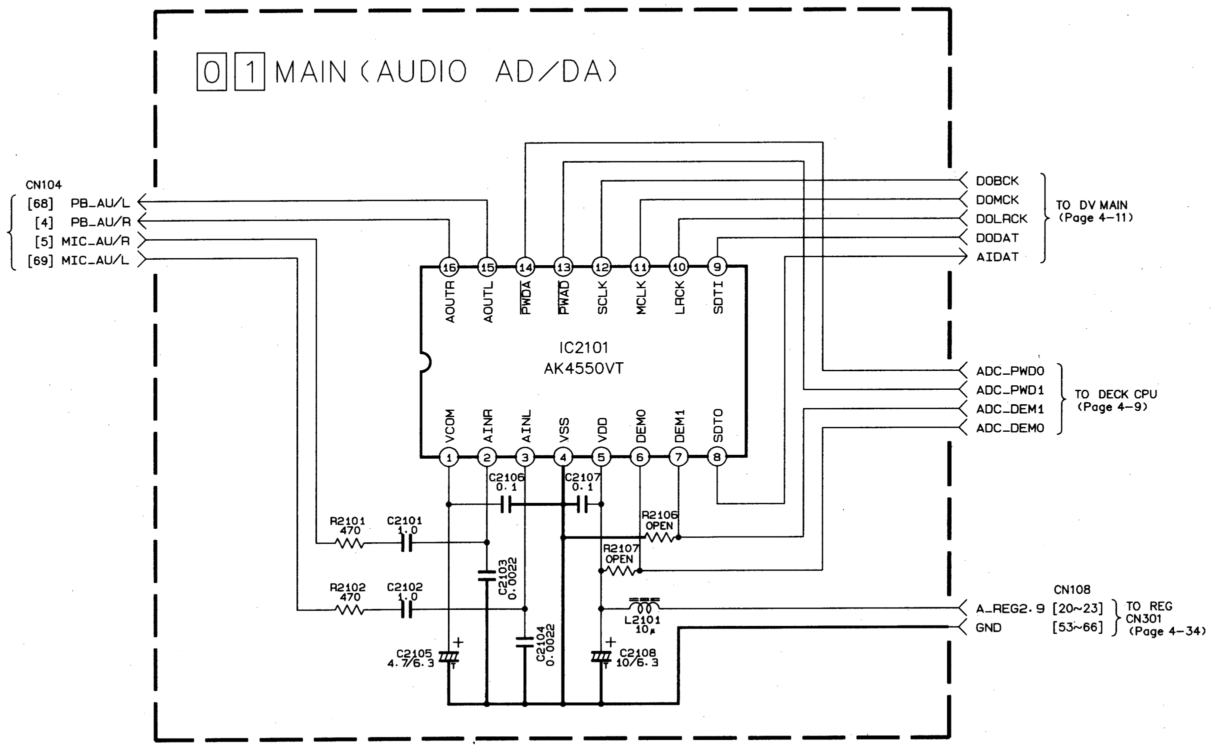
NOTE: When ordering parts, be sure to order according to the Part Number indicated in the Parts List.

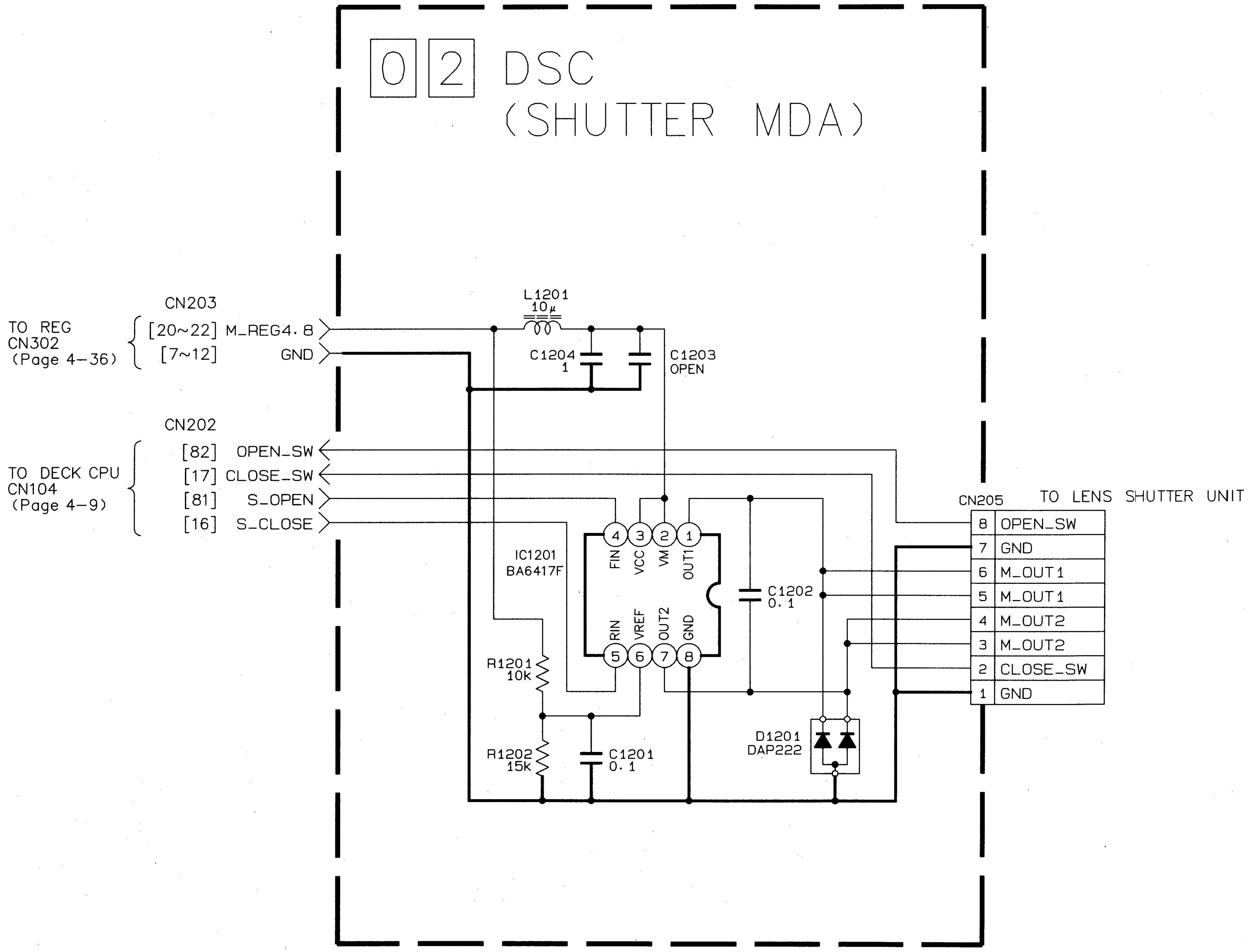


TO REG CN301 (Page 4-34)
CN108
01 MAIN (REG CTL)
1 DRUM_ERR
41 CAP_ERR
2 UNREG
42 PWR_CTL
3 UNREG
43 DRUM_PWR
4 UNREG
44 DRUM_PWR
5 CAP_PWR
45 REG_15.5
6 CAP_PWR
46 REG_15.5
7 M_REG4.8
47 CCD_-7V
8 M_REG4.8
48 CCD_-7V
9 M_REG4.8
49 REG_1.8V
10 VF_4.6V
50 REG_1.8V
11 VF_4.6V
51 REG_1.8V
12 REG_4.6V
52 REG_1.8V
13 REG_4.6V
53 GND
14 REG_4.6V
54 GND
15 REG_4.6V
55 GND
16 GND
56 D_REG2.9
17 GND
57 D_REG2.9
18 GND
58 D_REG2.9
19 GND
59 D_REG2.9
20 GND
60 A_REG2.9
21 GND
61 A_REG2.9
22 GND
62 A_REG2.9
23 GND
63 A_REG2.9
24 GND
64 CHKUNREG
25 GND
65 LITHIUM
26 GND
66 BATT_SW
27 GND
67 JIG_SCK
28 PB_VCO
68 JIG_SPT
29 VPP
69 SBE
30 ENV_OUT
70 REC_MON
31 AL_3VSYS
71 JLIP_TX
32 MAIN_VCO
72 FS_PLL
33 SBD
73 CHG_STOP
34 SBT
74 JIG_MOD
35 SPA
75 JLIP_RX
36 RST
76 VPPD
37 KEY_A
77 ZOOM_SW
38 M_UNREG
78 N.C
39 M_UNREG
79 N.C
40 D_GAIN
80 ATFI
HID
DRUM_ERR
CAP_ERR
DRUM_PWR
CAP_PWR
REG_15.5
M_REG4.8
CCD_-7V
REG_1.8V
VF_4.6V
REG_4.6V
D_REG2.9
A_REG2.9
BATT_SW
JIG_SCK
PB_VCO
JIG_SPT
VPP
SBE
ENV_OUT
REC_MON
AL_3VSYS
JLIP_TX
MAIN_VCO
FS_PLL
SBD
SBT
JIG_MOD
SPA
JLIP_RX
VPPD
KEY_A
ZOOM_SW
M_UNREG
D_GAIN
ATFI
HID
Q6006 2SJ501
S G D
IC6002 S-81233SG-QF-X
NC NC GND Vin Vout
R6009 2.2k
R6010 100k
C6003 0.1
C6004 10/6.3
IC6003 S-81330HG-KB-X
GND Vout Vin
IC6004 S-80826ANNP-W
VSS NC OUT VDD
L6001 10μ
C6005 6.8/16
C6006 1
C6007 10 /6.3
R6011 100k
C6008 0.1
IC6001 S-80842ANNP-W
VSS NC OUT VDD
Q6001 2SJ501
R6002 18k
R6003 100k
R6001 100k
R6004 1k
Q6002 2SK3019
C6001 0.1
Q6003 2SJ347
R6005 220k
R6006 100k
R6007 100k
Q6004 2SK3019
Q6005 DTC144EE
R6008 OPEN
C6002 0.01
PWR_CTL TO CPU (Page 4-5)
GND
UNREG (CN102-11) TO MIA CN405 (Page 4-35)
Q6007 RN47A3
R6012 82k
R6013 47k
C6009 0.01
R6018 470
D6001 RB706D-40-X
D6002 RB715F
R6017 1k
LIT_3V
RST
AL_3V
BATTCHK
TO CPU (Page 4-5)
5
4
3
2
1
A
B
C
D
E
F
G
H

4.11 AUDIO AD/DA AND SHUTTER MDA SCHEMATIC DIAGRAMS

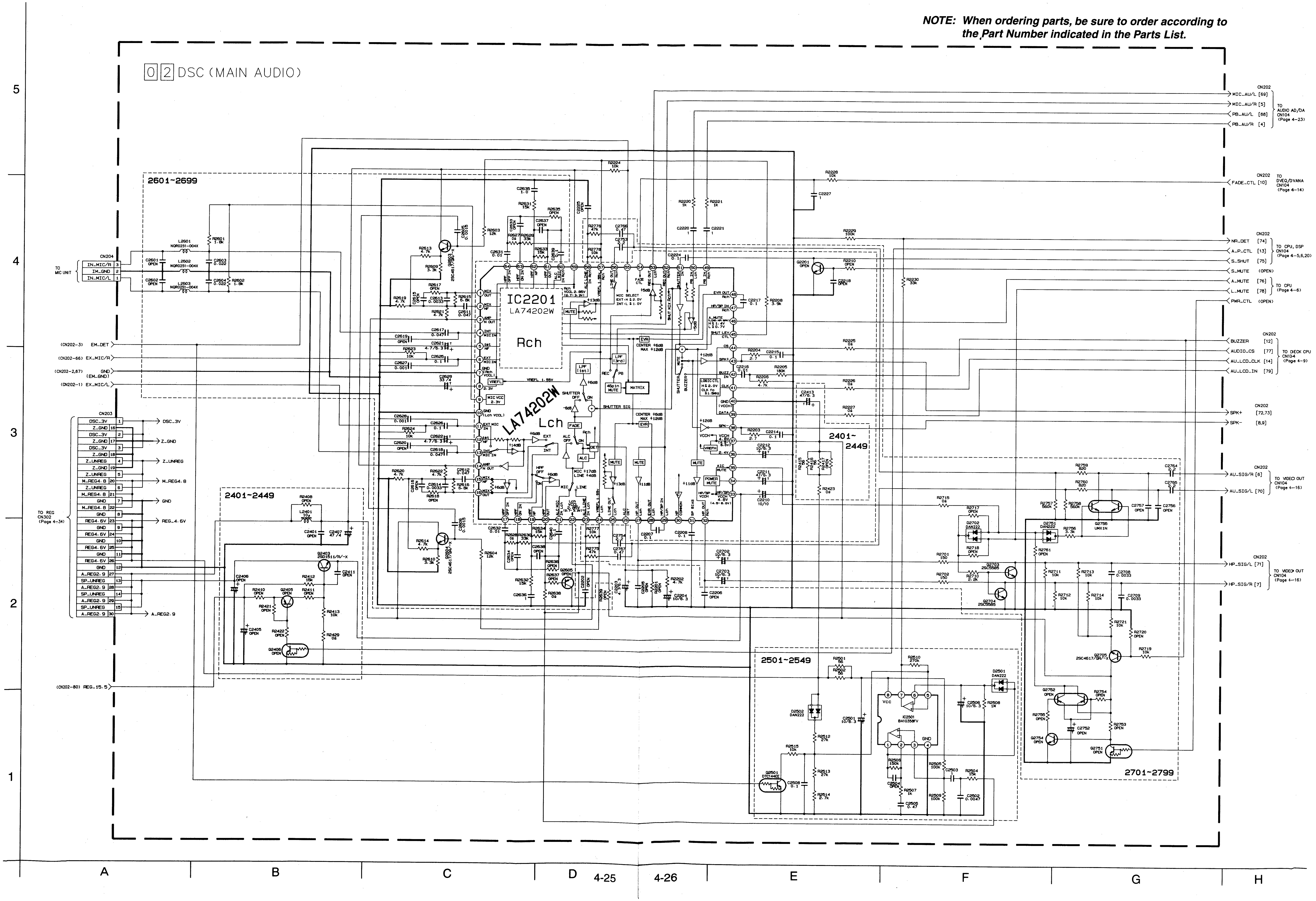
NOTE: When ordering parts, be sure to order according to the Part Number indicated in the Parts List.


01 MAIN (AUDIO AD/DA)
CN104
[68] PB_AU/L
[4] PB_AU/R
[5] MIC_AU/R
[69] MIC_AU/L
IC2101
AK4550VT
AOUTR
AOUTL
PWDA
PWAD
SCLK
MCLK
LRCK
SDTI
VCOM
AINR
AINL
VSS
VDD
DEM0
DEM1
SDTO
16
15
14
13
12
11
10
9
1
2
3
4
5
6
7
8
C2106
0.1
C2107
0.1
R2101
470
C2101
1.0
R2102
470
C2102
1.0
C2103
0.0022
C2104
0.0022
C2105
4.7/6.3
R2106
OPEN
R2107
OPEN
L2101
10μ
C2108
10/6.3
DOBCK
DOMCK
DOLRCK
DODAT
AIDAT
TO DV MAIN
(Page 4-11)
ADC_PWD0
ADC_PWD1
ADC_DEM1
ADC_DEM0
TO DECK CPU
(Page 4-9)
CN108
A_REG2.9 [20~23]
GND [53~66]
TO REG
CN301
(Page 4-34)


02 DSC
(SHUTTER MDA)
CN203
TO REG
CN302
(Page 4-36)
[20~22] M_REG4.8
[7~12] GND
CN202
TO DECK CPU
CN104
(Page 4-9)
[82] OPEN_SW
[17] CLOSE_SW
[81] S_OPEN
[16] S_CLOSE
L1201
10μ
C1204
1
C1203
OPEN
IC1201
BA6417F
FIN
VCC
VM
OUT1
RIN
VREF
OUT2
GND
4
3
2
1
5
6
7
8
C1202
0.1
R1201
10k
R1202
15k
C1201
0.1
D1201
DAP222
CN205
TO LENS SHUTTER UNIT
8 OPEN_SW
7 GND
6 M_OUT1
5 M_OUT1
4 M_OUT2
3 M_OUT2
2 CLOSE_SW
1 GND

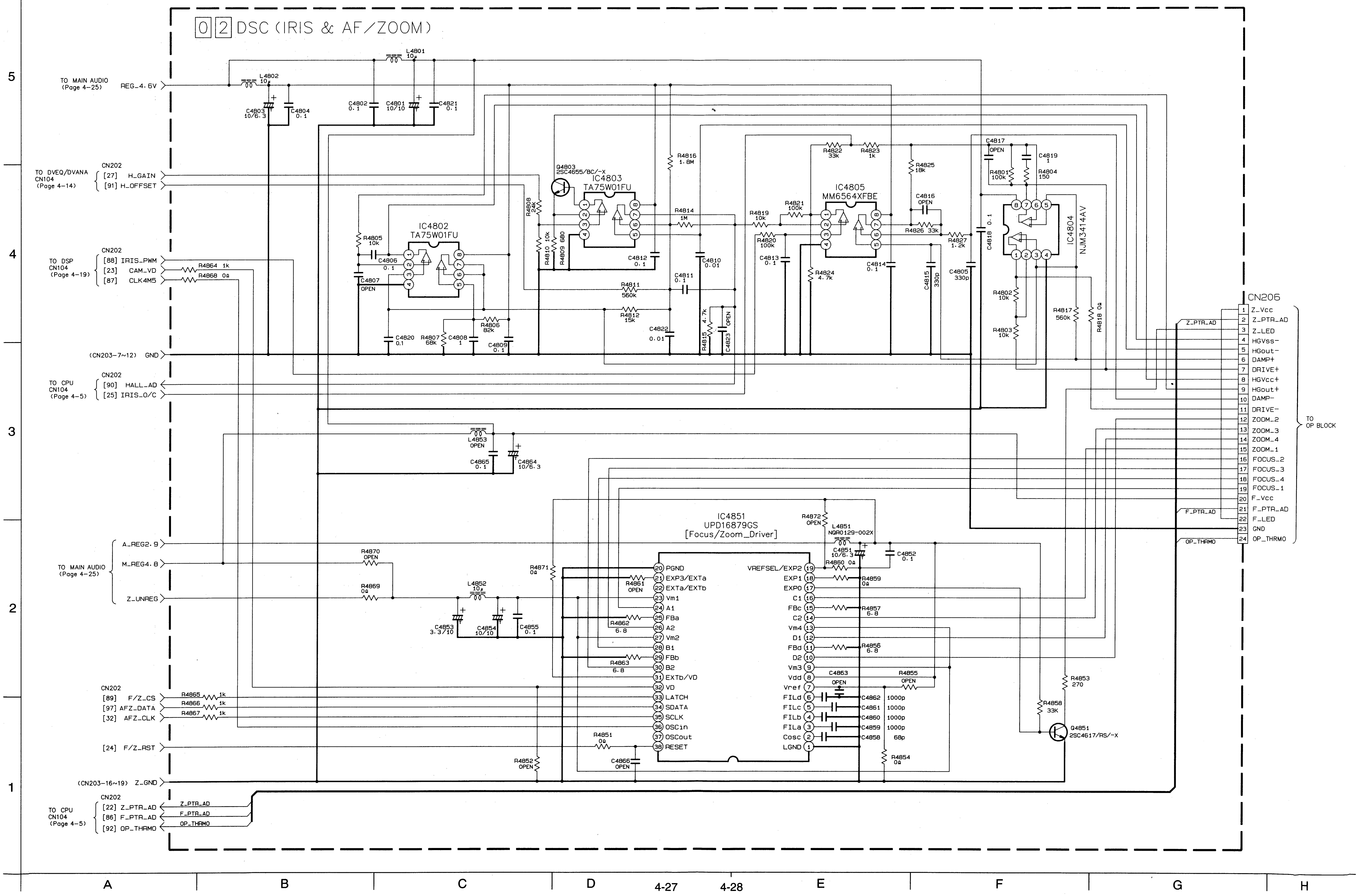
4.12 MAIN AUDIO SCHEMATIC DIAGRAM

***NOTE:** When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*


02 DSC (MAIN AUDIO)
2601~2699
2401~2449
2501~2549
2701~2799
IC2201
LA74202W
Rch
Lch
IC2501
BA10358FV
CN204
TO MIC UNIT
IN_MIC/R 3
IM_GND 2
IN_MIC/L 1
L2601 NQR0251-004X
L2602 NQR0251-004X
L2603 NQR0251-004X
(CN202-3) EM_DET
(CN202-66) EX_MIC/R
(CN202-2,67) GND (EM_GND)
(CN202-1) EX_MIC/L
(CN202-80) REG_15.5
CN203
TO REG CN302 (Page 4-34)
DSC_3V 1
Z_GND 16
DSC_3V 2
Z_GND 17
DSC_3V 3
Z_GND 18
Z_UNREG 4
Z_GND 19
Z_UNREG 5
M_REG4.8 20
Z_UNREG 6
M_REG4.8 21
GND 7
M_REG4.8 22
GND 8
REG4.6V 23
GND 9
REG4.6V 24
GND 10
REG4.6V 25
GND 11
REG4.6V 26
GND 12
A_REG2.9 27
SP_UNREG 13
A_REG2.9 28
SP_UNREG 14
A_REG2.9 29
SP_UNREG 15
A_REG2.9 30
DSC_3V
Z_GND
Z_UNREG
M_REG4.8
GND
REG_4.6V
A_REG2.9
CN202
MIC_AU/L [69]
MIC_AU/R [5]
PB_AU/L [68]
PB_AU/R [4]
TO AUDIO AD/DA CN104 (Page 4-23)
FADE_CTL [10]
TO DVEQ/DVANA CN104 (Page 4-14)
NR_DET [74]
A_P_CTL [13]
S_SHUT [75]
TO CPU, DSP CN104 (Page 4-5,6,20)
S_MUTE (OPEN)
A_MUTE [76]
L_MUTE [78]
TO CPU (Page 4-6)
PWR_CTL (OPEN)
BUZZER [12]
AUDIO_CS [77]
AU_LCD_CLK [14]
AU_LCD_IN [79]
TO DECK CPU CN104 (Page 4-9)
SPK+ [72,73]
SPK- [8,9]
AU_SIG/R [6]
AU_SIG/L [70]
TO VIDEO OUT CN104 (Page 4-16)
HP_SIG/L [71]
HP_SIG/R [7]
TO VIDEO OUT CN104 (Page 4-16)
Q2403 2SD1511/R/-X
Q2603 2SC4617/QR/-X
Q2604 2SC4617/QR/-X
Q2703 2SC5585
Q2704 2SC5585
Q2705 2SC4617/QR/-X
Q2755 UMX1N
Q2501 DTC144EE
D2501 DAN222
D2502 DAN222
D2701 DAN222
D2702 DAN222
VREFL 1.55V
MATRIX
SHUTTER SIG
MUTE
EVR
CENTER +6dB MAX +12dB
1
2
3
4
5
A
B
C
D
E
F
G
H

4.13 IRIS & AF/ZOOM SCHEMATIC DIAGRAM

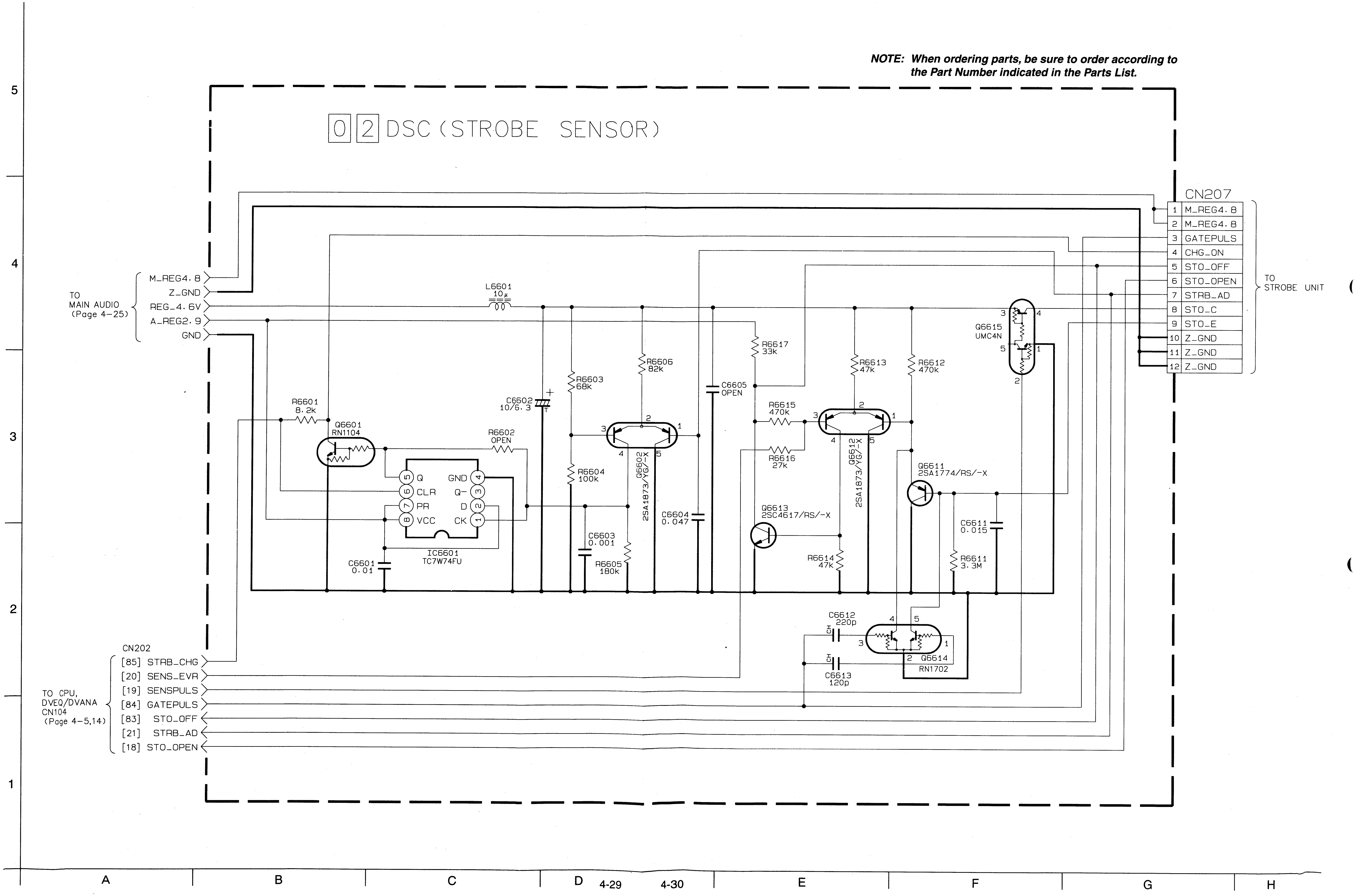
NOTE: When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



0 2 DSC (IRIS & AF/ZOOM)
TO MAIN AUDIO (Page 4-25) REG_4.6V
TO DVEQ/DVANA CN104 (Page 4-14) CN202 [27] H_GAIN [91] H_OFFSET
TO DSP CN104 (Page 4-19) CN202 [88] IRIS_PWM [23] CAM_VD [87] CLK4M5
(CN203-7~12) GND
TO CPU CN104 (Page 4-5) CN202 [90] HALL_AD [25] IRIS_O/C
TO MAIN AUDIO (Page 4-25) A_REG2.9 M_REG4.8 Z_UNREG
CN202 [89] F/Z_CS [97] AFZ_DATA [32] AFZ_CLK
[24] F/Z_RST
(CN203-16~19) Z_GND
TO CPU CN104 (Page 4-5) CN202 [22] Z_PTR_AD [86] F_PTR_AD [92] OP_THRMO
L4801 10µ
L4802 10µ
C4803 10/6.3
C4804 0.1
C4802 0.1
C4801 10/10
C4821 0.1
IC4802 TA75W01FU
R4805 10k
C4806 0.1
C4807 OPEN
C4820 0.1
R4807 68k
C4808 1
R4806 82k
C4809 0.1
R4864 1k
R4868 0Ω
R4808 24k
R4810 10k
R4809 680
Q4803 2SC4655/BC/-X
IC4803 TA75W01FU
R4816 1.8M
R4814 1M
C4812 0.1
C4810 0.01
C4811 0.1
R4811 560k
R4812 15k
C4822 0.01
R4815 4.7k
C4823 OPEN
IC4805 MM6564XFBE
R4822 33k
R4823 1k
R4821 100k
R4819 10k
R4820 100k
C4813 0.1
R4824 4.7k
C4814 0.1
R4825 18k
C4816 OPEN
R4826 33k
R4827 1.2k
C4815 330p
C4805 330p
C4818 0.1
C4817 OPEN
C4819 1
R4801 100k
R4804 150
IC4804 NJM3414AV
R4802 10k
R4803 10k
R4817 560k
R4818 0Ω
L4853 OPEN
C4865 0.1
C4864 10/6.3
CN206
1 Z_Vcc
2 Z_PTR_AD
3 Z_LED
4 HGVss-
5 HGout-
6 DAMP+
7 DRIVE+
8 HGVcc+
9 HGout+
10 DAMP-
11 DRIVE-
12 ZOOM_2
13 ZOOM_3
14 ZOOM_4
15 ZOOM_1
16 FOCUS_2
17 FOCUS_3
18 FOCUS_4
19 FOCUS_1
20 F_Vcc
21 F_PTR_AD
22 F_LED
23 GND
24 OP_THRMO
TO OP BLOCK
Z_PTR_AD
F_PTR_AD
OP_THRMO
IC4851 UPD16879GS [Focus/Zoom_Driver]
R4872 OPEN
L4851 NQR0129-002X
C4851 10/6.3
C4852 0.1
R4860 0Ω
R4870 OPEN
R4869 0Ω
R4871 0Ω
L4852 10µ
C4853 3.3/10
C4854 10/10
C4855 0.1
R4861 OPEN
R4862 6.8
R4863 6.8
20 PGND
21 EXP3/EXTa
22 EXTa/EXTb
23 Vm1
24 A1
25 FBa
26 A2
27 Vm2
28 B1
29 FBb
30 B2
31 EXTb/VD
32 VD
33 LATCH
34 SDATA
35 SCLK
36 OSCin
37 OSCout
38 RESET
19 VREFSEL/EXP2
18 EXP1
17 EXP0
16 C1
15 FBc
14 C2
13 Vm4
12 D1
11 FBd
10 D2
9 Vm3
8 Vdd
7 Vref
6 FILd
5 FILc
4 FILb
3 FILa
2 Cosc
1 LGND
R4859 0Ω
R4857 6.8
R4856 6.8
C4863 OPEN
R4855 OPEN
C4862 1000p
C4861 1000p
C4860 1000p
C4859 1000p
C4858 68p
R4854 0Ω
R4865 1k
R4866 1k
R4867 1k
R4851 0Ω
C4866 OPEN
R4852 OPEN
R4853 270
R4858 33K
Q4851 2SC4617/RS/-X
A B C D E F G H
1 2 3 4 5

4.14 STROBE SENSOR SCHEMATIC DIAGRAM

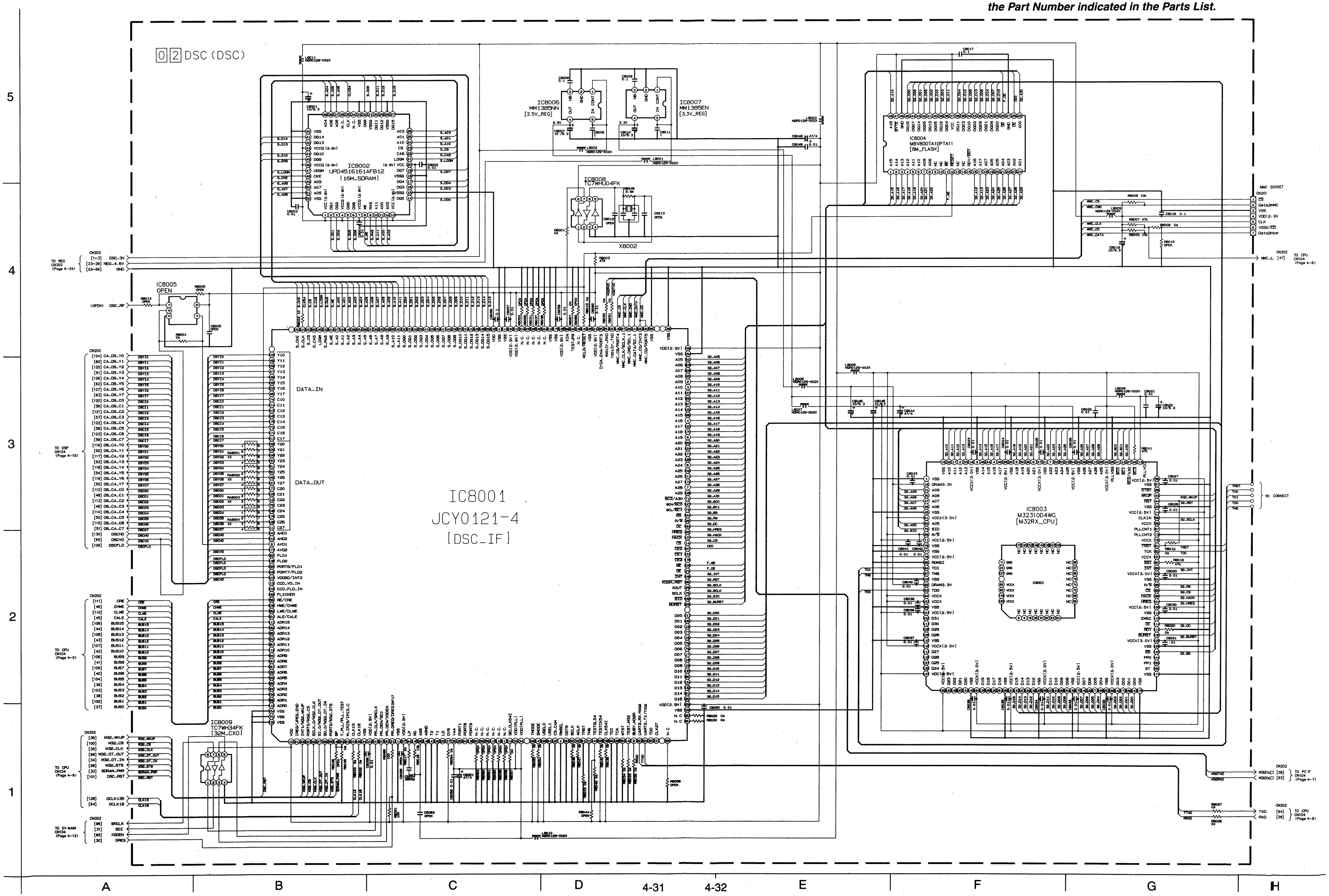
***NOTE:** When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*



02 DSC (STROBE SENSOR)
TO MAIN AUDIO (Page 4-25)
M_REG4.8
Z_GND
REG_4.6V
A_REG2.9
GND
CN207
1 M_REG4.8
2 M_REG4.8
3 GATEPULS
4 CHG_ON
5 STO_OFF
6 STO_OPEN
7 STRB_AD
8 STO_C
9 STO_E
10 Z_GND
11 Z_GND
12 Z_GND
TO STROBE UNIT
L6601 10µ
R6601 8.2k
Q6601 RN1104
IC6601 TC7W74FU
Q
CLR
PR
VCC
GND
Q-
D
CK
C6601 0.01
R6602 OPEN
C6602 10/6.3
R6603 68k
R6604 100k
C6603 0.001
R6605 180k
R6606 82k
Q6602 2SA1873/YG/-X
C6604 0.047
C6605 OPEN
R6617 33k
R6615 470k
R6616 27k
Q6613 2SC4617/RS/-X
R6613 47k
R6614 47k
Q6612 2SA1873/YG/-X
R6612 470k
Q6611 2SA1774/RS/-X
C6611 0.015
R6611 3.3M
Q6615 UMC4N
C6612 220p
C6613 120p
Q6614 RN1702
CH
CN202
TO CPU, DVEQ/DVANA CN104 (Page 4-5,14)
[85] STRB_CHG
[20] SENS_EVR
[19] SENSPULS
[84] GATEPULS
[83] STO_OFF
[21] STRB_AD
[18] STO_OPEN
1
2
3
4
5
A
B
C
D
E
F
G
H

4.15 DSC SCHEMATIC DIAGRAM

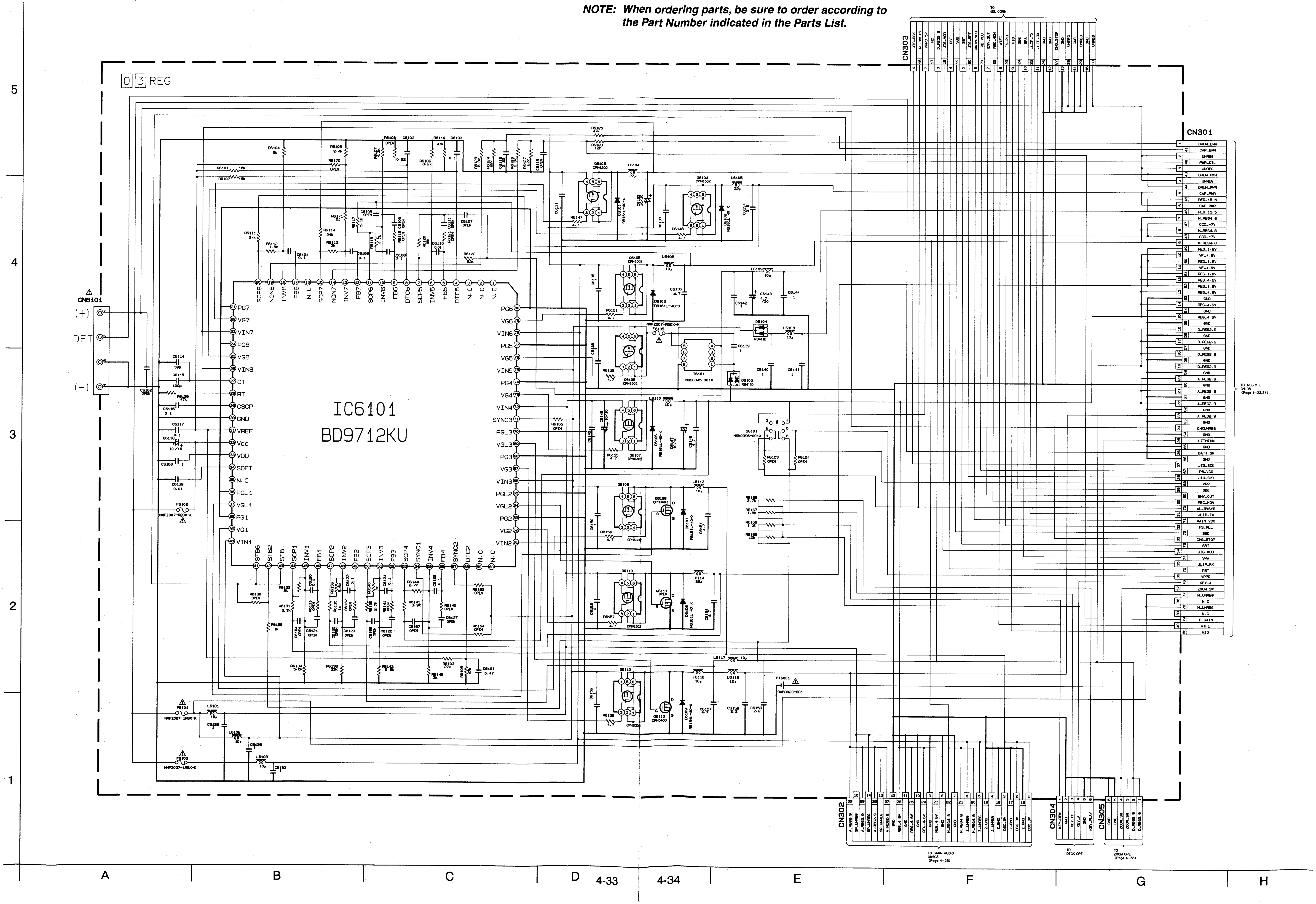
NOTE: When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



02 DSC (DSC)
IC8001
JCY0121-4
[DSC_IF]
IC8002
UPD4516161AFB12
[16M_SDRAM]
IC8003
M32310D4WG
[M32RX_CPU]
IC8004
MBV800TA10PTA11
[8M_FLASH]
IC8005
OPEN
IC8006
MM1385NN
[2.5V_REG]
IC8007
MM1385EN
[3.3V_REG]
IC8008
TC7WHU04FK
X8002
IC8009
TC7WH34FK
[32M_CXO]
DATA_IN
DATA_OUT
MMC SOCKET
CN201
NO CONNECT
TO REG CN302 (Page 4-34)
TO DSP CN104 (Page 4-19)
TO CPU CN104 (Page 4-5)
TO CPU CN104 (Page 4-8)
TO DV MAIN CN104 (Page 4-12)
TO CPU CN104 (Page 4-6)
TO PC IF CN104 (Page 4-7)
TO CPU CN104 (Page 4-8)
CN203
CN202
DSC_3V
REG_4.6V
GND
DSC_RF
SRCLK
SDI
XSDEN
DREQ
TXD
RXD
M32xD
MMC_L
1
2
3
4
5
A
B
C
D
E
F
G
H

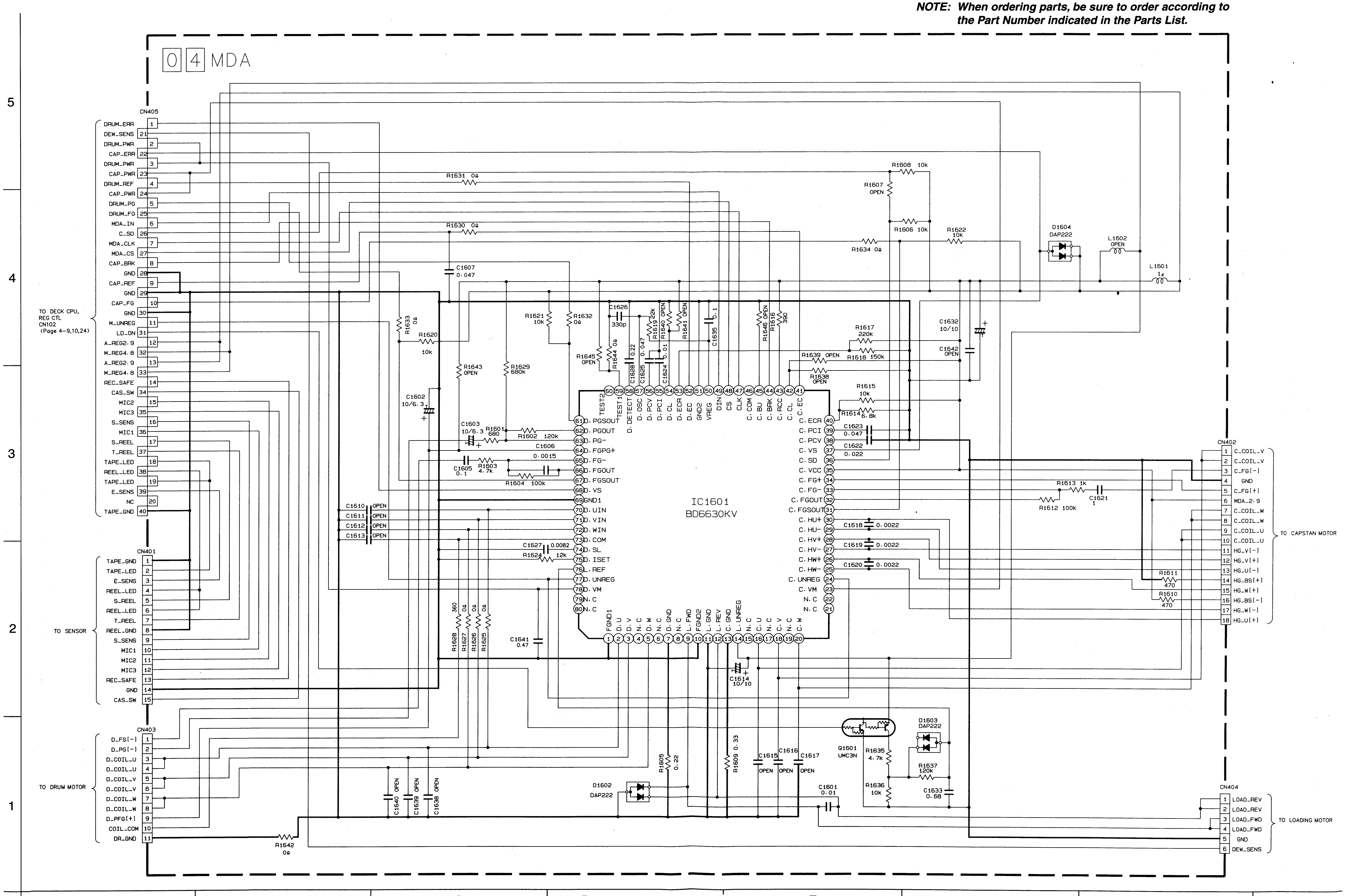
4.16 REGULATOR SCHEMATIC DIAGRAM

NOTE:* *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.


03 REG
CN6101
(+)
DET
(−)
IC6101
BD9712KU
CN301
CN302
CN303
CN304
CN305
TO JIG CONN.
TO REG CTL CN108 (Page 4-23,24)
TO MAIN AUDIO CN203 (Page 4-25)
TO DECK OPE
TO ZOOM OPE (Page 4-56)
T6101
S6101
BT6001
A
B
C
D
E
F
G
H
1
2
3
4
5

4.17 MDA SCHEMATIC DIAGRAM

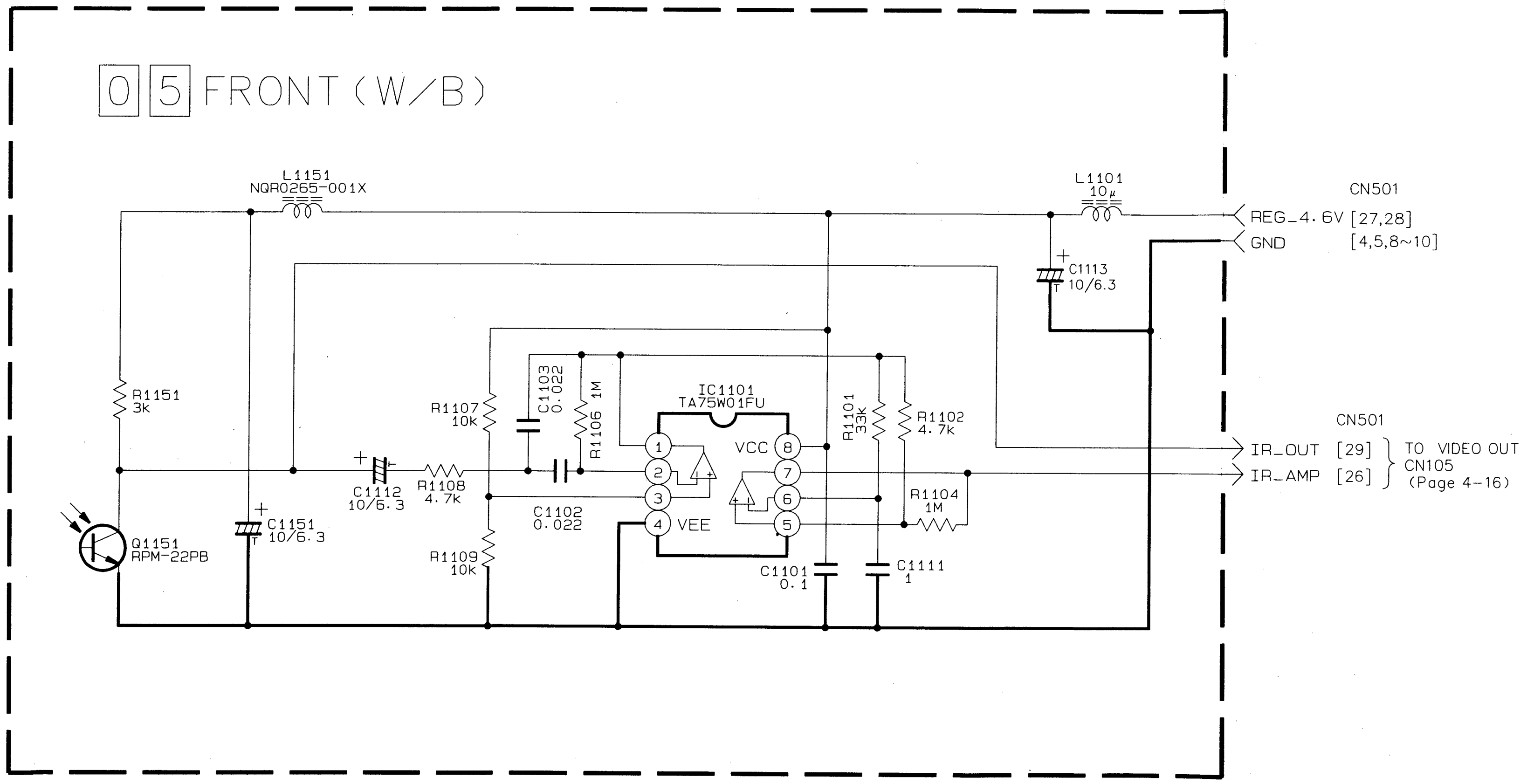
NOTE: When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



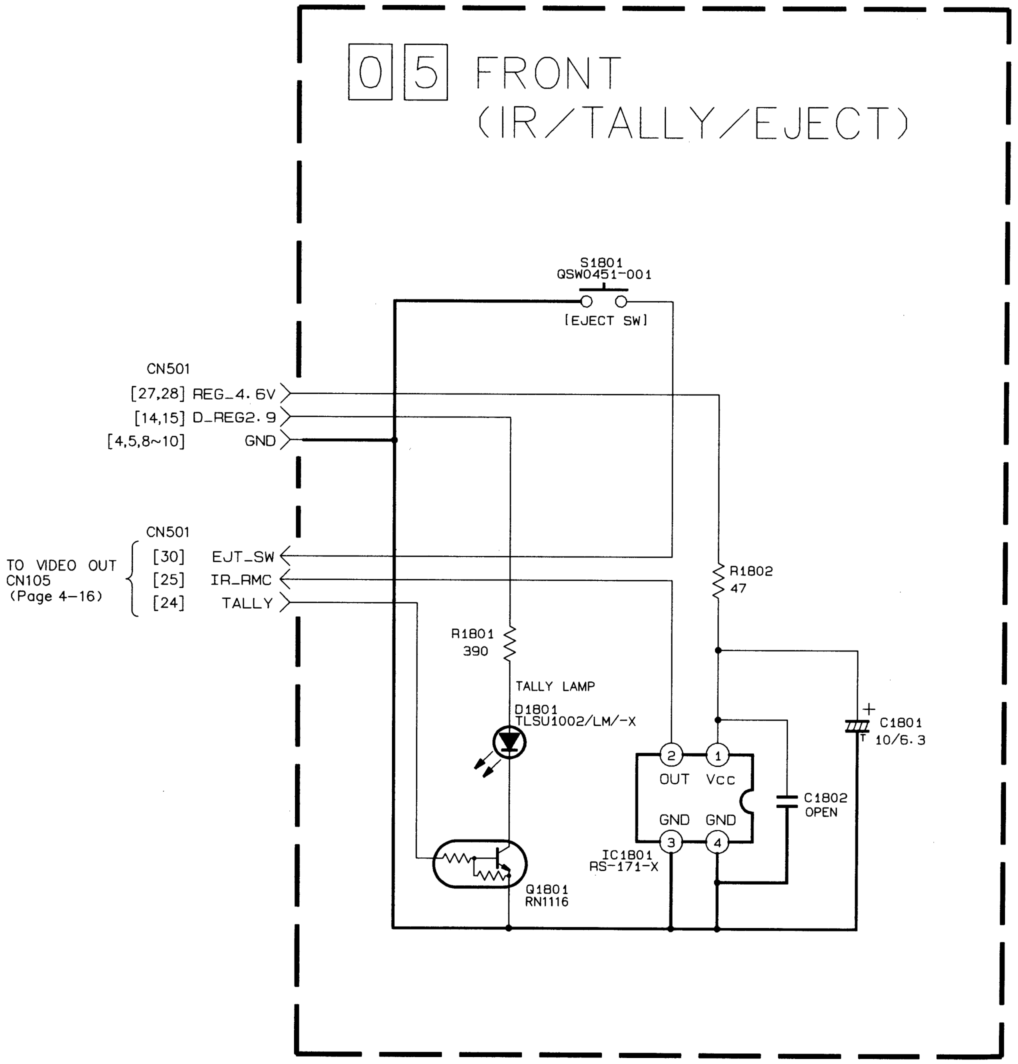
04 MDA
CN405
DRUM_ERR 1
DEW_SENS 21
DRUM_PWR 2
CAP_ERR 22
DRUM_PWR 3
CAP_PWR 23
DRUM_REF 4
CAP_PWR 24
DRUM_PG 5
DRUM_FG 25
MDA_IN 6
C_SD 26
MDA_CLK 7
MDA_CS 27
CAP_BRK 8
GND 28
CAP_REF 9
GND 29
CAP_FG 10
GND 30
M_UNREG 11
LD_ON 31
A_REG2.9 12
M_REG4.8 32
A_REG2.9 13
M_REG4.8 33
REC_SAFE 14
CAS_SW 34
MIC2 15
MIC3 35
S_SENS 16
MIC1 36
S_REEL 17
T_REEL 37
TAPE_LED 18
REEL_LED 38
TAPE_LED 19
E_SENS 39
NC 20
TAPE_GND 40
TO DECK CPU, REG CTL CN102 (Page 4-9,10,24)
CN401
TAPE_GND 1
TAPE_LED 2
E_SENS 3
REEL_LED 4
S_REEL 5
REEL_LED 6
T_REEL 7
REEL_GND 8
S_SENS 9
MIC1 10
MIC2 11
MIC3 12
REC_SAFE 13
GND 14
CAS_SW 15
TO SENSOR
CN403
D_FG[-] 1
D_PG[-] 2
D_COIL_U 3
D_COIL_U 4
D_COIL_V 5
D_COIL_V 6
D_COIL_W 7
D_COIL_W 8
D_PFG[+] 9
COIL_COM 10
DR_GND 11
TO DRUM MOTOR
R1642 0Ω
R1631 0Ω
R1630 0Ω
C1607 0.047
R1633 0Ω
R1620 10k
R1643 OPEN
R1629 680k
C1602 10/6.3
C1603 10/6.3
R1601 680
R1602 120k
C1606 0.0015
C1605 0.1
R1603 4.7k
R1604 100k
R1621 10k
R1632 0Ω
R1645 OPEN
R1644 0Ω
C1626 330p
C1628 0.22
C1625 0.047
R1619 22k
R1640 OPEN
C1624 0.01
R1641 OPEN
C1635 0.1
R1646 OPEN
R1616 390
C1610 OPEN
C1611 OPEN
C1612 OPEN
C1613 OPEN
C1627 0.0082
R1624 12k
R1628 360
R1627 0Ω
R1626 0Ω
R1625 0Ω
C1641 0.47
IC1601
BD6630KV
60 TEST2
59 TEST1
58 D.DETECT
57 D.OSC
56 D.PCV
55 D.PCI
54 D.CL
53 D.ECR
52 D.EC
51 GND2
50 VREG
49 DIN
48 CS
47 CLK
46 C.COM
45 C.BU
44 C.BRK
43 C.RCC
42 C.CL
41 C.EC
61 D.PGSOUT
62 D.PGOUT
63 D.PG-
64 D.FGPG+
65 D.FG-
66 D.FGOUT
67 D.FGSOUT
68 D.VS
69 GND1
70 D.UIN
71 D.VIN
72 D.WIN
73 D.COM
74 D.SL
75 D.ISET
76 L.REF
77 D.UNREG
78 D.VM
79 N.C
80 N.C
1 FGND1
2 D.U
3 D.V
4 N.C
5 D.W
6 N.C
7 D.GND
8 N.C
9 L.FWD
10 FGND2
11 L.GND
12 L.REV
13 C.GND
14 L.UNREG
15 N.C
16 C.U
17 N.C
18 C.V
19 N.C
20 C.W
40 C.ECR
39 C.PCI
38 C.PCV
37 C.VS
36 C.SD
35 C.VCC
34 C.FG+
33 C.FG-
32 C.FGOUT
31 C.FGSOUT
30 C.HU+
29 C.HU-
28 C.HV+
27 C.HV-
26 C.HW+
25 C.HW-
24 C.UNREG
23 C.VM
22 N.C
21 N.C
R1608 10k
R1607 OPEN
R1606 10k
R1634 0Ω
R1622 10k
D1604 DAP222
L1602 OPEN
L1601 1μ
C1632 10/10
C1642 OPEN
R1617 220k
R1618 150k
R1639 OPEN
R1638 OPEN
R1615 10k
R1614 6.8k
C1623 0.047
C1622 0.022
C1618 0.0022
C1619 0.0022
C1620 0.0022
R1613 1k
C1621 1
R1612 100k
R1611 470
R1610 470
C1614 10/10
D1602 DAP222
R1605 0.22
R1609 0.33
C1615 OPEN
C1616 OPEN
C1617 OPEN
C1640 OPEN
C1639 OPEN
C1638 OPEN
Q1601 UMC3N
R1635 4.7k
R1636 10k
D1603 DAP222
R1637 120k
C1633 0.68
C1601 0.01
CN402
1 C_COIL_V
2 C_COIL_V
3 C_FG[-]
4 GND
5 C_FG[+]
6 MDA_2.9
7 C_COIL_W
8 C_COIL_W
9 C_COIL_U
10 C_COIL_U
11 HG_V[-]
12 HG_V[+]
13 HG_U[-]
14 HG_BS[+]
15 HG_W[+]
16 HG_BS[-]
17 HG_W[-]
18 HG_U[+]
TO CAPSTAN MOTOR
CN404
1 LOAD_REV
2 LOAD_REV
3 LOAD_FWD
4 LOAD_FWD
5 GND
6 DEW_SENS
TO LOADING MOTOR
5
4
3
2
1
A
B
C
D
E
F
G
H

4.18 W/B AND IR/TALLY/EJECT SCHEMATIC DIAGRAMS

***NOTE:** When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*



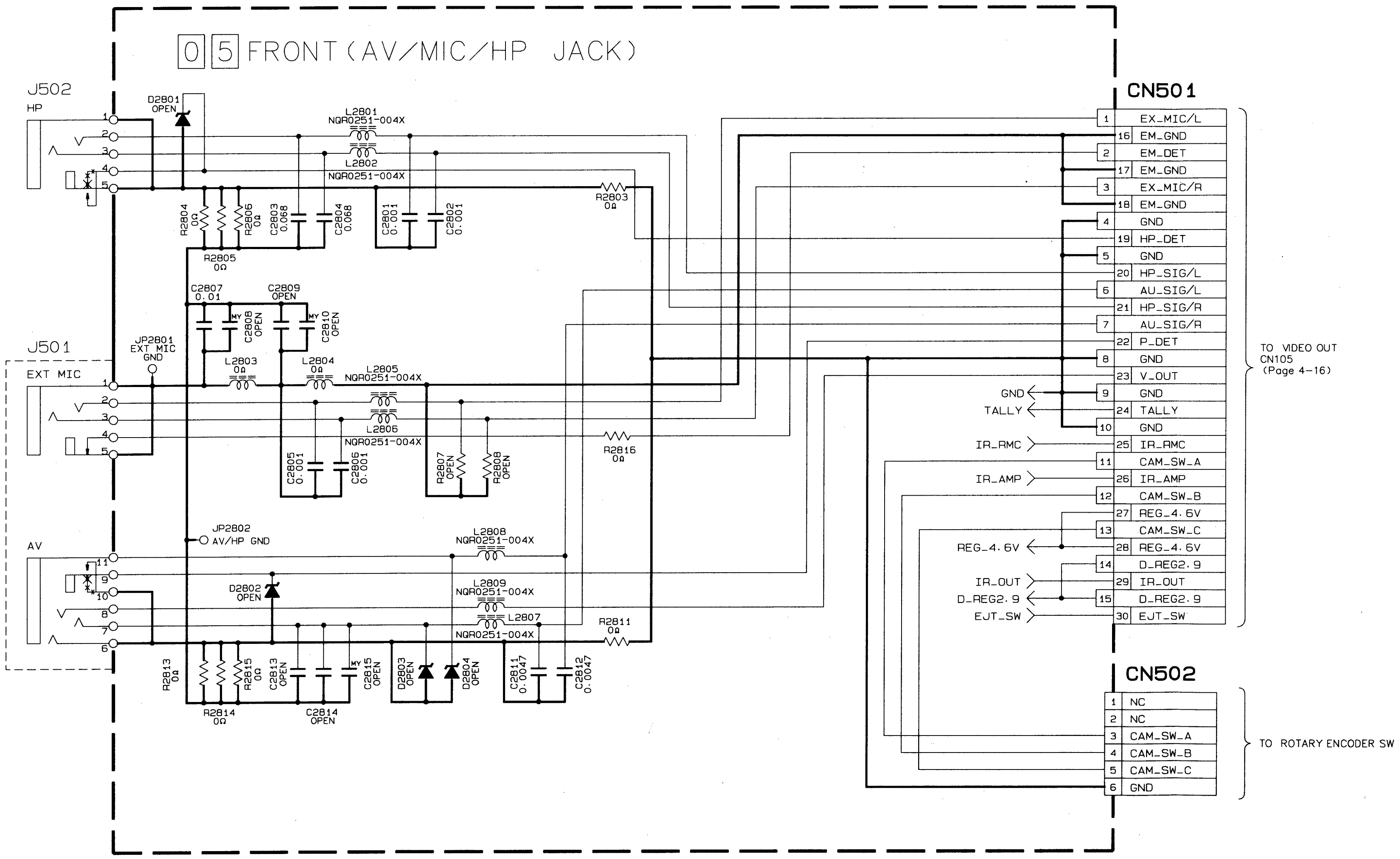
0 5 FRONT (W/B)
L1151
NQR0265-001X
L1101
10μ
CN501
REG_4.6V [27,28]
GND [4,5,8~10]
C1113
10/6.3
R1151
3k
R1107
10K
C1103
0.022
R1106 1M
IC1101
TA75W01FU
VCC
VEE
R1101
33k
R1102
4.7k
CN501
IR_OUT [29]
IR_AMP [26]
TO VIDEO OUT
CN105
(Page 4-16)
C1112
10/6.3
R1108
4.7k
C1102
0.022
R1104
1M
Q1151
RPM-22PB
C1151
10/6.3
R1109
10K
C1101
0.1
C1111
1

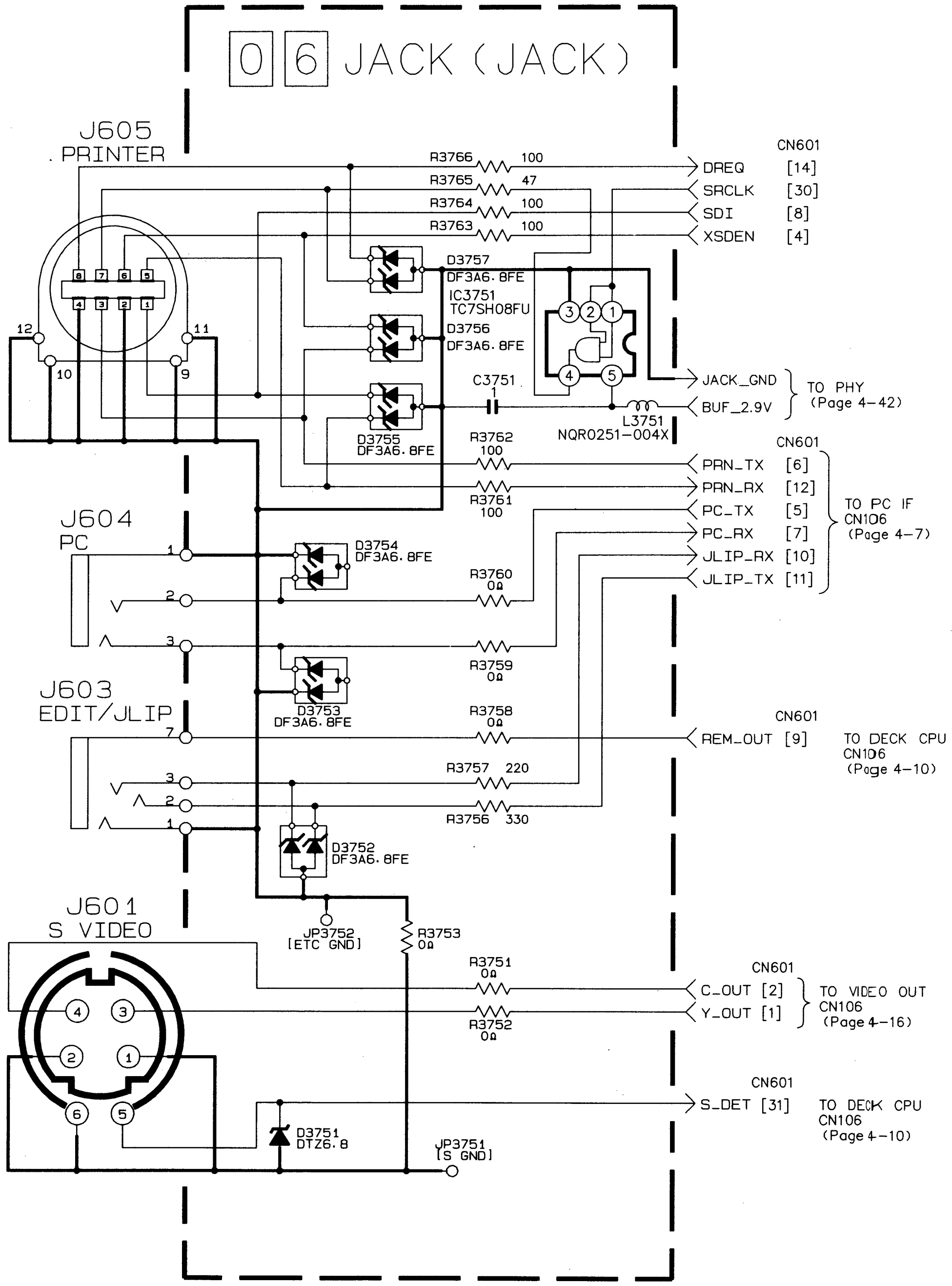


0 5 FRONT
(IR/TALLY/EJECT)
S1801
QSW0451-001
[EJECT SW]
CN501
[27,28] REG_4.6V
[14,15] D_REG2.9
[4,5,8~10] GND
CN501
TO VIDEO OUT
CN105
(Page 4-16)
[30] EJT_SW
[25] IR_RMC
[24] TALLY
R1802
47
R1801
390
TALLY LAMP
D1801
TLSU1002/LM/-X
C1801
10/6.3
OUT
Vcc
GND
GND
C1802
OPEN
IC1801
RS-171-X
Q1801
RN1116

4.19 AV/MIC/HP JACK AND JACK SCHEMATIC DIAGRAMS

***NOTE:** When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*

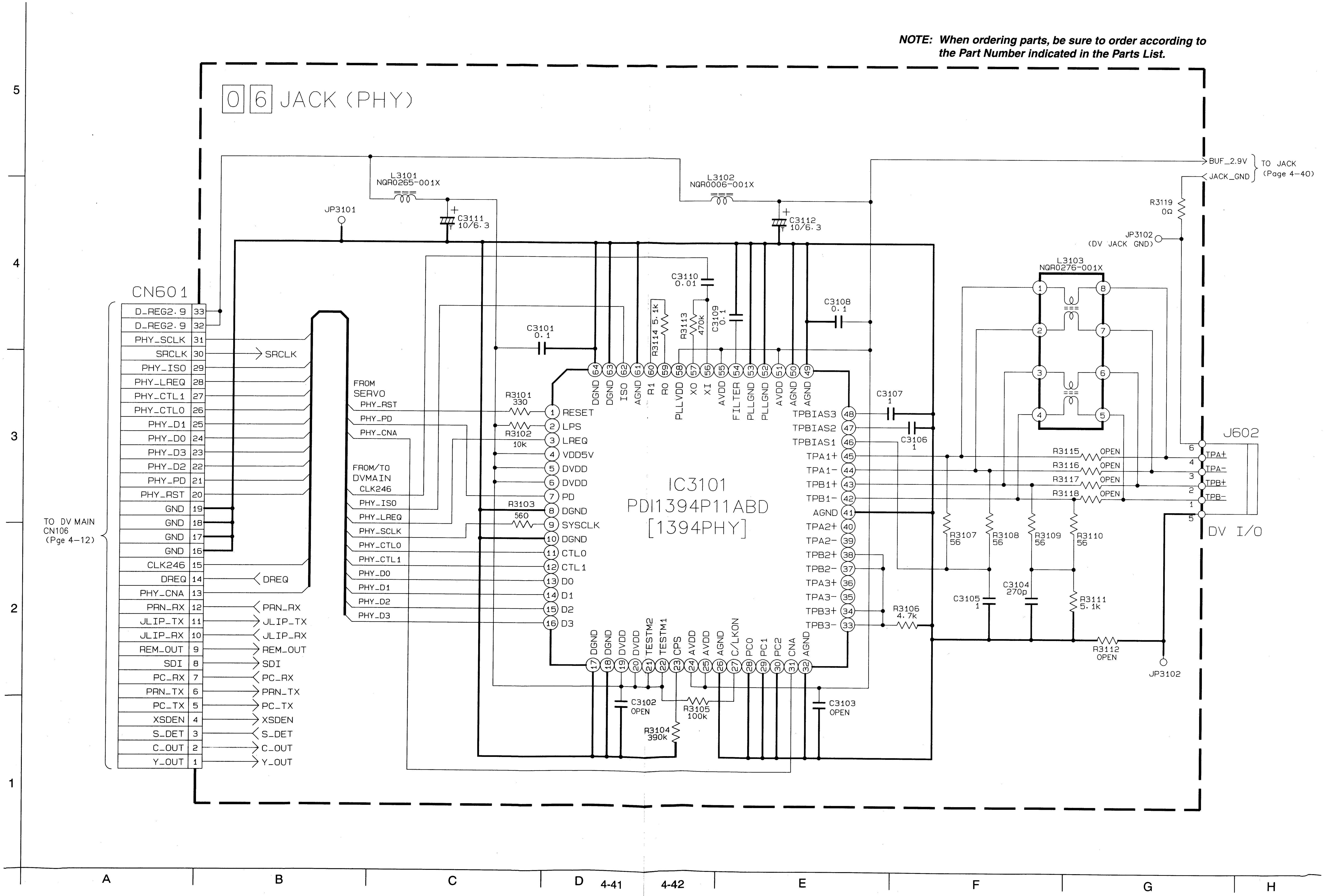

05 FRONT (AV/MIC/HP JACK)
J502
HP
D2801
OPEN
L2801
NQR0251-004X
L2802
NQR0251-004X
R2803
0Ω
R2804
0Ω
R2805
0Ω
R2806
0Ω
C2803
0.068
C2804
0.068
C2801
0.001
C2802
0.001
C2807
0.01
C2808
OPEN
C2809
OPEN
C2810
OPEN
J501
EXT MIC
JP2801
EXT MIC
GND
L2803
0Ω
L2804
0Ω
L2805
NQR0251-004X
L2806
NQR0251-004X
C2805
0.001
C2806
0.001
R2807
OPEN
R2808
OPEN
R2816
0Ω
JP2802
AV/HP GND
AV
L2808
NQR0251-004X
D2802
OPEN
L2809
NQR0251-004X
L2807
NQR0251-004X
R2811
0Ω
R2813
0Ω
R2814
0Ω
R2815
0Ω
C2813
OPEN
C2814
OPEN
C2815
OPEN
D2803
OPEN
D2804
OPEN
C2811
0.0047
C2812
0.0047
CN501
1 EX_MIC/L
16 EM_GND
2 EM_DET
17 EM_GND
3 EX_MIC/R
18 EM_GND
4 GND
19 HP_DET
5 GND
20 HP_SIG/L
6 AU_SIG/L
21 HP_SIG/R
7 AU_SIG/R
22 P_DET
8 GND
23 V_OUT
9 GND
24 TALLY
10 GND
25 IR_RMC
11 CAM_SW_A
26 IR_AMP
12 CAM_SW_B
27 REG_4.6V
13 CAM_SW_C
28 REG_4.6V
14 D_REG2.9
29 IR_OUT
15 D_REG2.9
30 EJT_SW
GND
TALLY
IR_RMC
IR_AMP
REG_4.6V
IR_OUT
D_REG2.9
EJT_SW
TO VIDEO OUT
CN105
(Page 4-16)
CN502
1 NC
2 NC
3 CAM_SW_A
4 CAM_SW_B
5 CAM_SW_C
6 GND
TO ROTARY ENCODER SW


06 JACK (JACK)
J605
PRINTER
R3766 100
R3765 47
R3764 100
R3763 100
DREQ [14]
SRCLK [30]
SDI [8]
XSDEN [4]
CN601
D3757
DF3A6.8FE
IC3751
TC7SH08FU
D3756
DF3A6.8FE
C3751
1
D3755
DF3A6.8FE
JACK_GND
BUF_2.9V
TO PHY
(Page 4-42)
L3751
NQR0251-004X
R3762
100
R3761
100
CN601
PRN_TX [6]
PRN_RX [12]
PC_TX [5]
PC_RX [7]
JLIP_RX [10]
JLIP_TX [11]
TO PC IF
CN106
(Page 4-7)
J604
PC
D3754
DF3A6.8FE
R3760
0Ω
R3759
0Ω
D3753
DF3A6.8FE
J603
EDIT/JLIP
R3758
0Ω
CN601
REM_OUT [9]
TO DECK CPU
CN106
(Page 4-10)
R3757 220
R3756 330
D3752
DF3A6.8FE
J601
S VIDEO
JP3752
[ETC GND]
R3753
0Ω
R3751
0Ω
R3752
0Ω
CN601
C_OUT [2]
Y_OUT [1]
TO VIDEO OUT
CN106
(Page 4-16)
CN601
S_DET [31]
TO DECK CPU
CN106
(Page 4-10)
D3751
DTZ6.8
JP3751
[S GND]

5
4
3
2
1

4.20 PHY SCHEMATIC DIAGRAM

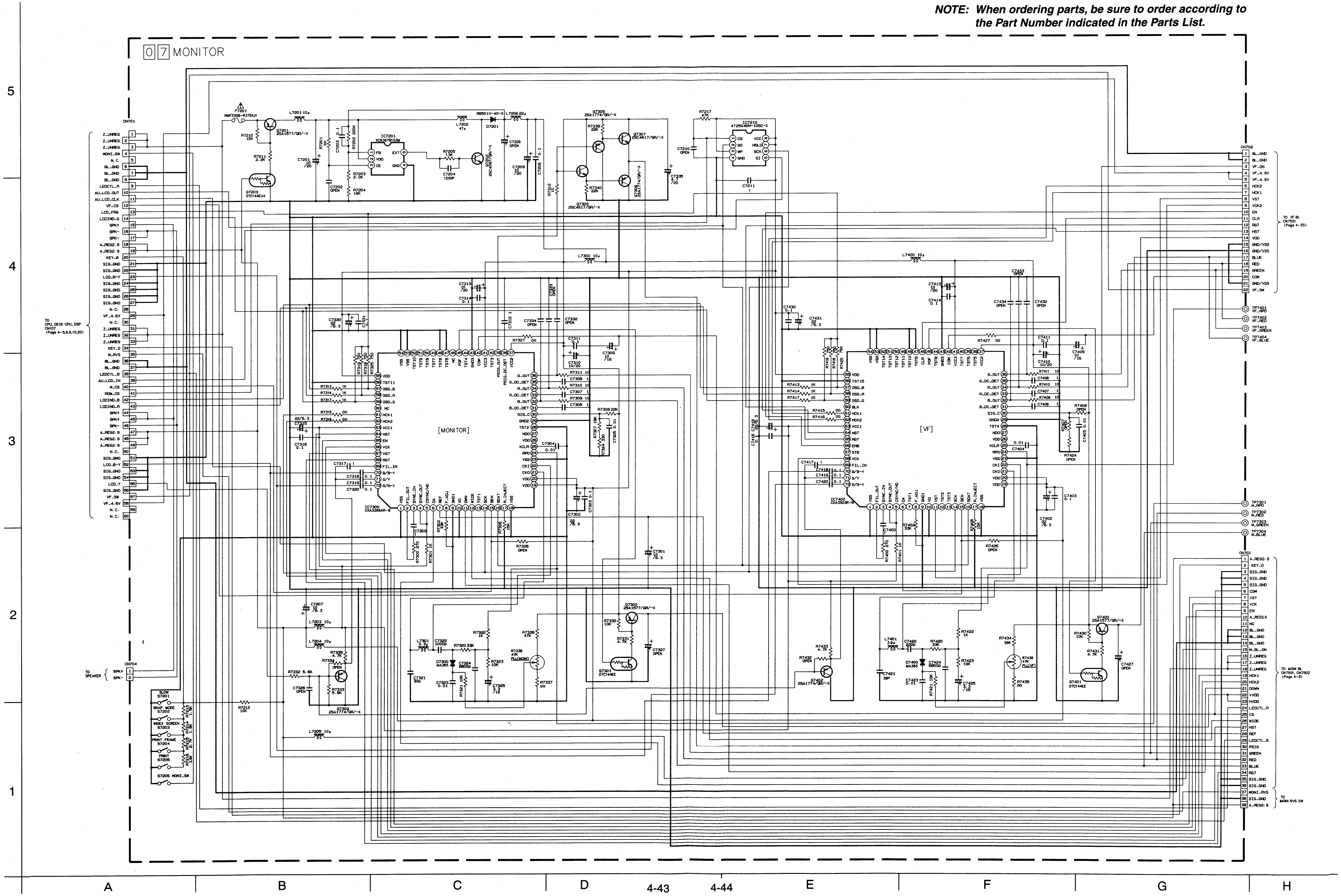
***NOTE:** When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*



06 JACK (PHY)
CN601
TO DV MAIN CN106 (Pge 4–12)
D_REG2.9 33
D_REG2.9 32
PHY_SCLK 31
SRCLK 30
PHY_ISO 29
PHY_LREQ 28
PHY_CTL1 27
PHY_CTL0 26
PHY_D1 25
PHY_D0 24
PHY_D3 23
PHY_D2 22
PHY_PD 21
PHY_RST 20
GND 19
GND 18
GND 17
GND 16
CLK246 15
DREQ 14
PHY_CNA 13
PRN_RX 12
JLIP_TX 11
JLIP_RX 10
REM_OUT 9
SDI 8
PC_RX 7
PRN_TX 6
PC_TX 5
XSDEN 4
S_DET 3
C_OUT 2
Y_OUT 1
SRCLK
DREQ
PRN_RX
JLIP_TX
JLIP_RX
REM_OUT
SDI
PC_RX
PRN_TX
PC_TX
XSDEN
S_DET
C_OUT
Y_OUT
FROM SERVO
PHY_RST
PHY_PD
PHY_CNA
FROM/TO DVMAIN
CLK246
PHY_ISO
PHY_LREQ
PHY_SCLK
PHY_CTL0
PHY_CTL1
PHY_D0
PHY_D1
PHY_D2
PHY_D3
JP3101
L3101 NQR0265-001X
C3111 10/6.3
L3102 NQR0006-001X
C3112 10/6.3
C3110 0.01
C3109 0.1
C3108 0.1
C3101 0.1
R3114 5.1k
R3113 470k
R3101 330
R3102 10k
R3103 560
IC3101
PDI1394P11ABD
[1394PHY]
1 RESET
2 LPS
3 LREQ
4 VDD5V
5 DVDD
6 DVDD
7 PD
8 DGND
9 SYSCLK
10 DGND
11 CTL0
12 CTL1
13 D0
14 D1
15 D2
16 D3
17 DGND
18 DGND
19 DVDD
20 DVDD
21 TESTM1
22 TESTM2
23 CPS
24 AVDD
25 AVDD
26 AGND
27 C/LKON
28 PC0
29 PC1
30 PC2
31 CNA
32 AGND
33 TPB3−
34 TPB3+
35 TPA3−
36 TPA3+
37 TPB2−
38 TPB2+
39 TPA2−
40 TPA2+
41 AGND
42 TPB1−
43 TPB1+
44 TPA1−
45 TPA1+
46 TPBIAS1
47 TPBIAS2
48 TPBIAS3
49 AGND
50 AGND
51 AVDD
52 PLLGND
53 PLLGND
54 FILTER
55 AVDD
56 XI
57 XO
58 PLLVDD
59 R0
60 R1
61 AGND
62 ISO
63 DGND
64 DGND
C3107 1
C3106 1
C3102 OPEN
C3103 OPEN
R3105 100k
R3104 390k
R3106 4.7k
L3103 NQR0276-001X
R3115 OPEN
R3116 OPEN
R3117 OPEN
R3118 OPEN
R3107 56
R3108 56
R3109 56
R3110 56
C3105 1
C3104 270p
R3111 5.1k
R3112 OPEN
JP3102
R3119 0Ω
JP3102 (DV JACK GND)
BUF_2.9V
JACK_GND
TO JACK (Page 4–40)
J602
TPA+
TPA−
TPB+
TPB−
DV I/O
A
B
C
D
E
F
G
H
1
2
3
4
5

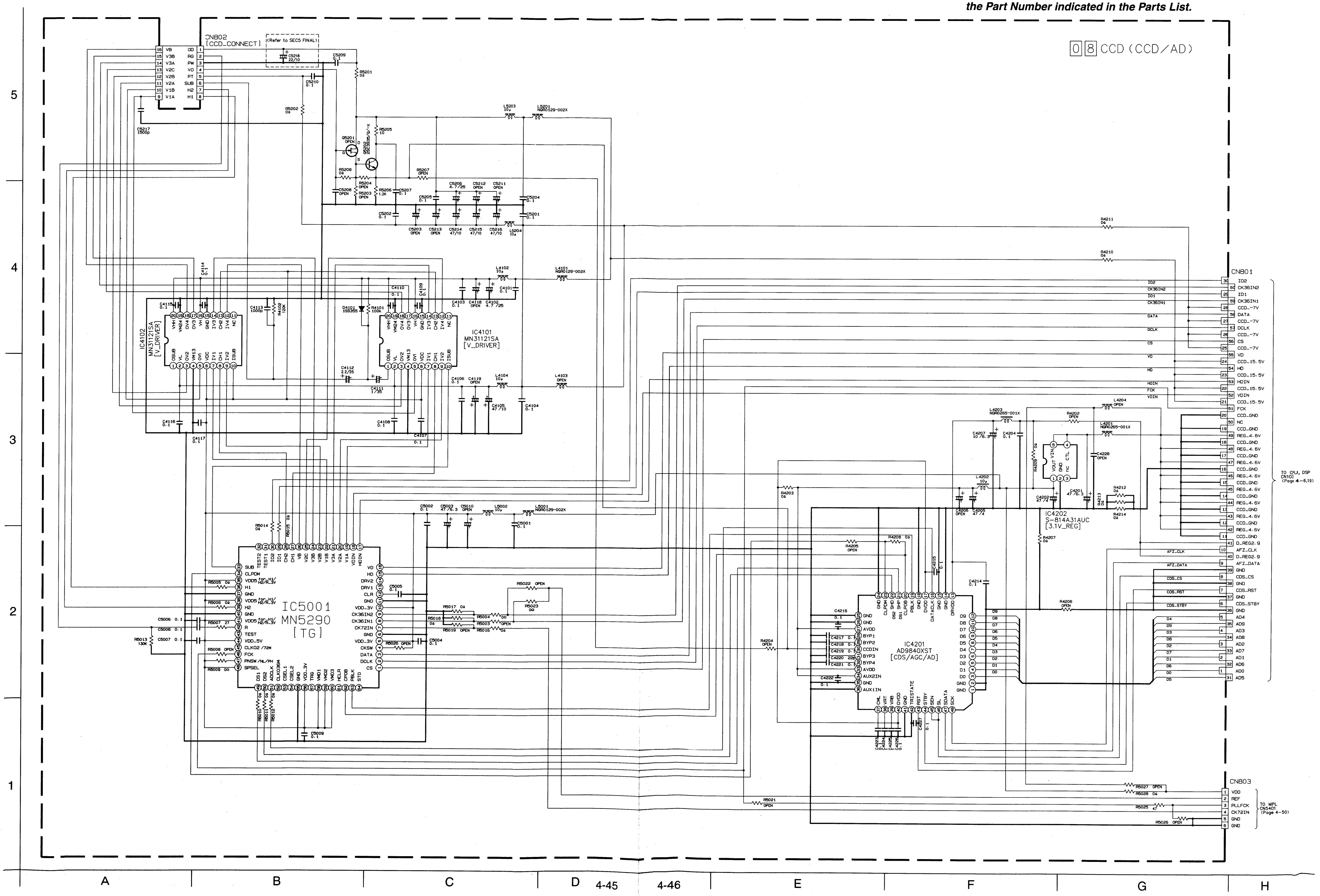
4.21 MONITOR SCHEMATIC DIAGRAM

NOTE: When ordering parts, be sure to order according to the Part Number indicated in the Parts List.


07 MONITOR
CN701
1 Z_UNREG
2 Z_UNREG
3 Z_UNREG
4 MONI_SW
5 N. C.
6 BL_GND
7 BL_GND
8 BL_GND
9 LEDCTL_R
10 AU_LCD_OUT
11 AU_LCD_CLK
12 VF_CS
13 LCD_FRG
14 LCDIND_G
15 SPK+
16 SPK-
17 SPK-
18 A_REG2.9
19 A_REG2.9
20 KEY_B
21 SIG_GND
22 SIG_GND
23 LCD_R-Y
24 SIG_GND
25 SIG_GND
26 SIG_GND
27 SIG_GND
28 N. C.
29 VF_4.6V
30 N. C.
31 Z_UNREG
32 Z_UNREG
33 Z_UNREG
34 KEY_D
35 M_RVS
36 BL_GND
37 BL_GND
38 LEDCTL_B
39 AU_LCD_IN
40 M_CS
41 ROM_CS
42 LCDIND_B
43 LCDIND_R
44 SPK+
45 SPK+
46 SPK-
47 A_REG2.9
48 A_REG2.9
49 A_REG2.9
50 N. C.
51 SIG_GND
52 LCD_B-Y
53 SIG_GND
54 SIG_GND
55 LCD_Y
56 SIG_GND
57 VF_SW
58 VF_4.6V
59 N. C.
60 N. C.
TO CPU, DECK CPU, DSP CN107 (Page 4-5,6,9,10,20)
CN704
1 SPK+
2 SPK-
TO SPEAKER
F7201 NMFZ008-R375XJ1
Q7201 2SA1577/QR/-X
Q7203 DTC144EUA
L7201 10μ
IC7201 XC6367B103M
FB VDD CE EXT GND
Q7202 2SC4617/QR/-X
D7201 RB501V-40-X
L7202 47μ
L7206 22μ
Q7305 2SA1774/QR/-X
Q7307 2SC4617/QR/-X
Q7306 2SA1774/QR/-X
Q7308 2SC4617/QR/-X
IC7210 AT25040N-10SC-X
CS VCC SO HOLD WP SCK GND SI
L7300 10μ
L7400 10μ
IC7300 CXA3268AR-B
[MONITOR]
IC7400 CXA3503R-B
[VF]
L7203 10μ
L7204 10μ
L7205 10μ
Q7302 2SA1774/QR/-X
Q7300 2SA1577/QR/-X
Q7301 DTC144EE
L7301 3.9μ
D7300 MA365
R7338 47K PLL(MONI)
L7401 3.9μ
D7400 MA365
R7438 47K PLL(VF)
Q7402 2SA1774/QR/-X
Q7400 2SA1577/QR/-X
Q7401 DTC144EE
SLOW S7201
SNAP MODE S7202
INDEX SCREEN S7203
PRINT FRAME S7204
PRINT S7205
S7206 MONI_SW
CN702
1 BL_GND
2 BL_GND
3 VF_ON
4 VF_4.6V
5 VF_4.6V
6 HCK2
7 HCK1
8 VST
9 VCK2
10 EN
11 CLR
12 RGT
13 HST
14 VDD
15 GND/VSS
16 GND/VSS
17 BLUE
18 RED
19 GREEN
20 COM
21 GND/VSS
22 VF_SW
TO VF BL CN7551 (Page 4-55)
TP7401 VF_RPD
TP7402 VF_RED
TP7403 VF_GREEN
TP7404 VF_BLUE
TP7301 M_RPD
TP7302 M_RED
TP7303 M_GREEN
TP7304 M_BLUE
CN703
1 A_REG2.9
2 KEY_D
3 SIG_GND
4 SIG_GND
5 SIG_GND
6 COM
7 VST
8 VCK
9 EN
10 A_REG2.9
11 NC
12 BL_GND
13 BL_GND
14 BL_GND
15 M_BL_ON
16 Z_UNREG
17 Z_UNREG
18 Z_UNREG
19 HCK1
20 HCK2
21 DOWN
22 VVDD
23 HVDD
24 LEDCTL_R
25 CS
26 WIDE
27 HST
28 REF
29 LEDCTL_B
30 PSIG
31 GREEN
32 RED
33 BLUE
34 RGT
35 SIG_GND
36 SIG_GND
37 MONI_RVS
38 SIG_GND
39 A_REG2.9
TO MONI BL CN7501, CN7502 (Page 4-51
TO MONI RVS SW
5
4
3
2
1
A
B
C
D
E
F
G
H

4.22 CCD/AD SCHEMATIC DIAGRAM

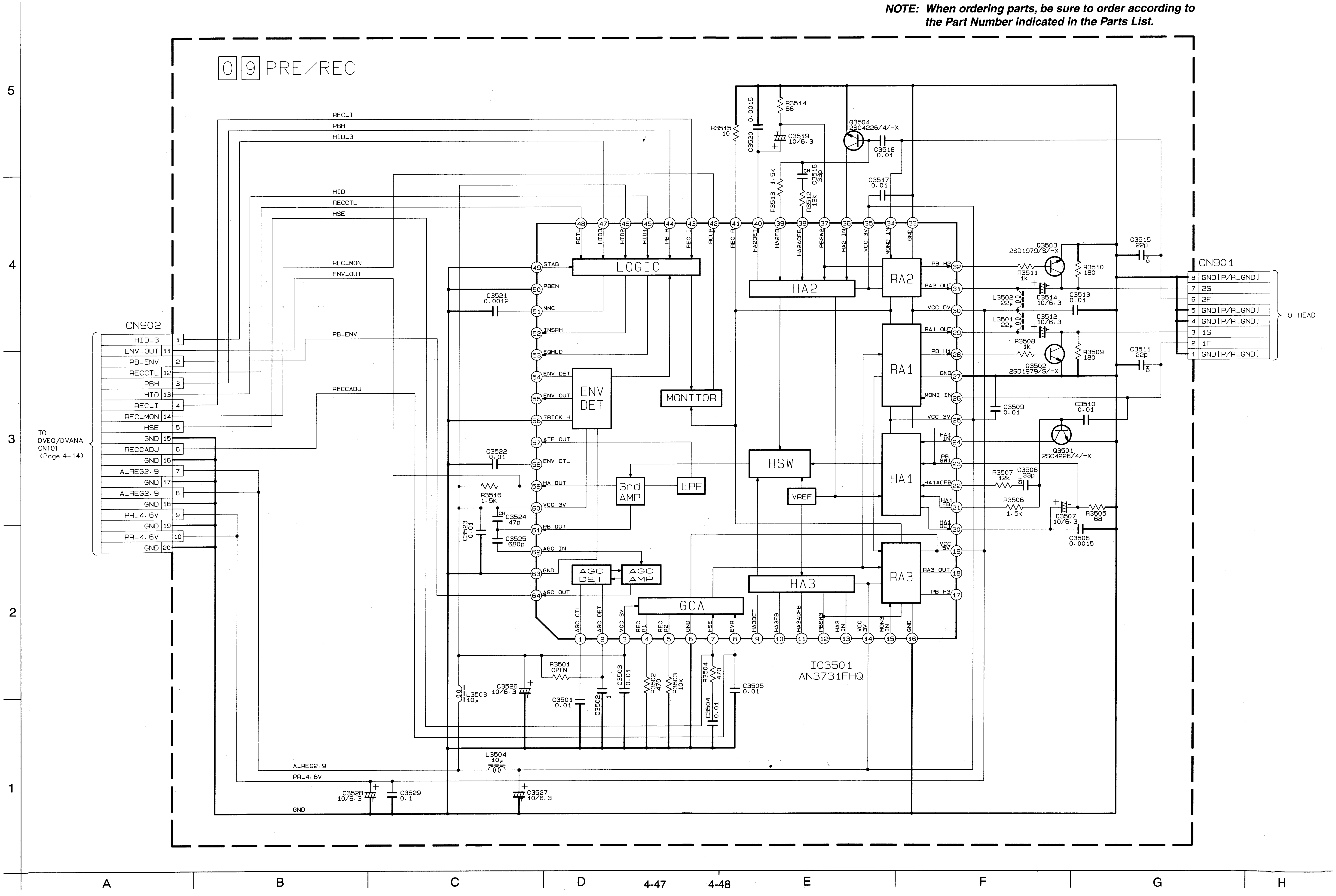
NOTE: When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



08 CCD (CCD/AD)
CN802 [CCD_CONNECT]
(Refer to SEC5 FINAL)
IC4102 MN31121SA [V_DRIVER]
IC4101 MN31121SA [V_DRIVER]
IC5001 MN5290 [TG]
IC4201 AD9840XST [CDS/AGC/AD]
IC4202 S-814A31AUC [3.1V_REG]
Q5201
Q5202
D4101 1SS355
L4101 NQR0129-002X
L5201 NQR0129-002X
L5001 NQR0129-002X
L4203 NQR0265-001X
L4201 NQR0265-001X
CN801
ID2
CK36IN2
ID1
CK36IN1
CCD_-7V
DATA
DCLK
CS
VD
CCD_15.5V
HD
HDIN
VDIN
FCK
CCD_GND
NC
REG_4.6V
D_REG2.9
AFZ_CLK
AFZ_DATA
GND
CDS_CS
CDS_RST
CDS_STBY
AD4
AD9
AD3
AD8
AD2
AD7
AD1
AD6
AD0
AD5
TO CPU, DSP CN101 (Page 4-6,19)
CN803
VDD
REF
PLLFCK
CK72IN
GND
TO MPL CN5401 (Page 4-50)
5
4
3
2
1
A
B
C
D
E
F
G
H

4.23 PRE/REC SCHEMATIC DIAGRAM

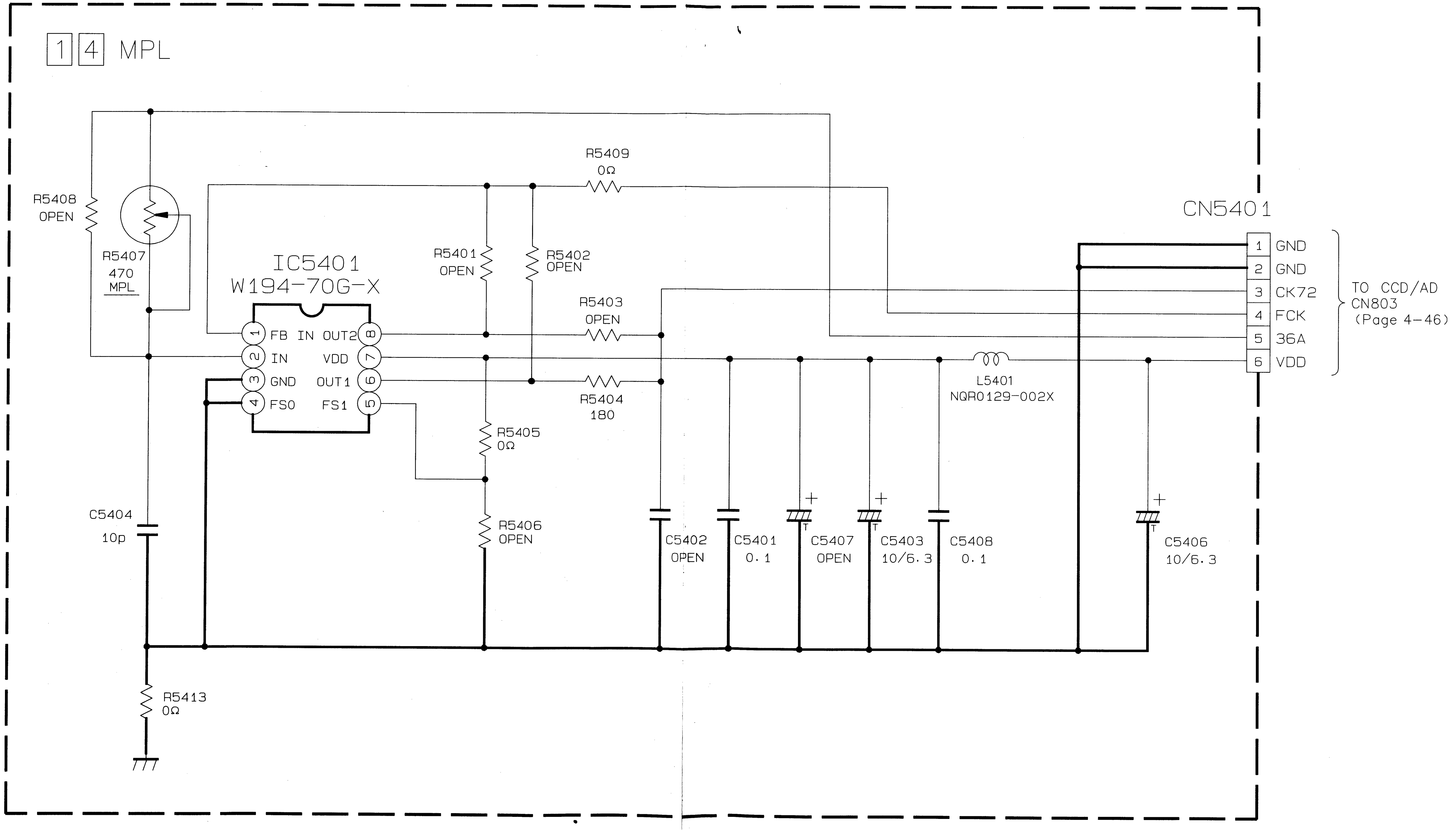
NOTE: When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



09 PRE/REC
5
4
3
2
1
A
B
C
D
E
F
G
H
CN902
HID_3 1
ENV_OUT 11
PB_ENV 2
RECCTL 12
PBH 3
HID 13
REC_I 4
REC_MON 14
HSE 5
GND 15
RECCADJ 6
GND 16
A_REG2.9 7
GND 17
A_REG2.9 8
GND 18
PR_4.6V 9
GND 19
PR_4.6V 10
GND 20
TO DVEQ/DVANA CN101 (Page 4-14)
REC_I
PBH
HID_3
HID
RECCTL
HSE
REC_MON
ENV_OUT
PB_ENV
RECCADJ
A_REG2.9
PR_4.6V
GND
LOGIC
ENV DET
MONITOR
3rd AMP
LPF
AGC DET
AGC AMP
GCA
HSW
VREF
HA2
HA1
HA3
RA1
RA2
RA3
IC3501
AN3731FHQ
STAB
PBEN
MMC
INSRH
EQHLD
ENV DET
ENV OUT
TRICK H
ATF OUT
ENV CTL
HA OUT
VCC 3V
PB OUT
AGC IN
GND
AGC OUT
AGC CTL
AGC DET
VCC 3V
REC R1
REC R2
GND
HSE
EVR
HA3DET
HA3FB
HA3ACFB
PBSW3
HA3 IN
VCC 3V
MON3 IN
GND
RCTL
HID3
HID2
HID1
PB H
REC I
RCUR
REC R
HA2DET
HA2FB
HA2ACFB
PBSW2
HA2 IN
VCC 3V
MON2 IN
GND
PB H2
PA2 OUT
VCC 5V
RA1 OUT
PB H1
GND
MONI IN
VCC 3V
HA1 IN
PB SW1
HA1ACFB
HA1 FB
HA1 DET
VCC 5V
RA3 OUT
PB H3
Q3504 2SC4226/4/-X
Q3503 2SD1979/S/-X
Q3502 2SD1979/S/-X
Q3501 2SC4226/4/-X
R3514 68
R3515 10
C3520 0.0015
C3519 10/6.3
C3516 0.01
C3517 0.01
C3518 33p
R3513 1.5k
R3512 12k
R3511 1k
R3510 180
C3514 10/6.3
C3513 0.01
L3502 22μ
L3501 22μ
C3512 10/6.3
R3508 1k
R3509 180
C3515 22p
C3511 22p
C3509 0.01
C3510 0.01
R3507 12k
C3508 33p
R3506 1.5k
C3507 10/6.3
R3505 68
C3506 0.0015
C3521 0.0012
C3522 0.01
R3516 1.5k
C3524 47p
C3523 0.01
C3525 680p
R3501 OPEN
C3501 0.01
C3502 1
C3503 0.01
R3502 470
R3503 10k
R3504 470
C3504 0.01
C3505 0.01
C3526 10/6.3
L3503 10μ
L3504 10μ
C3528 10/6.3
C3529 0.1
C3527 10/6.3
CN901
8 GND[P/R_GND]
7 2S
6 2F
5 GND[P/R_GND]
4 GND[P/R_GND]
3 1S
2 1F
1 GND[P/R_GND]
TO HEAD

4.24 MPL SCHEMATIC DIAGRAM

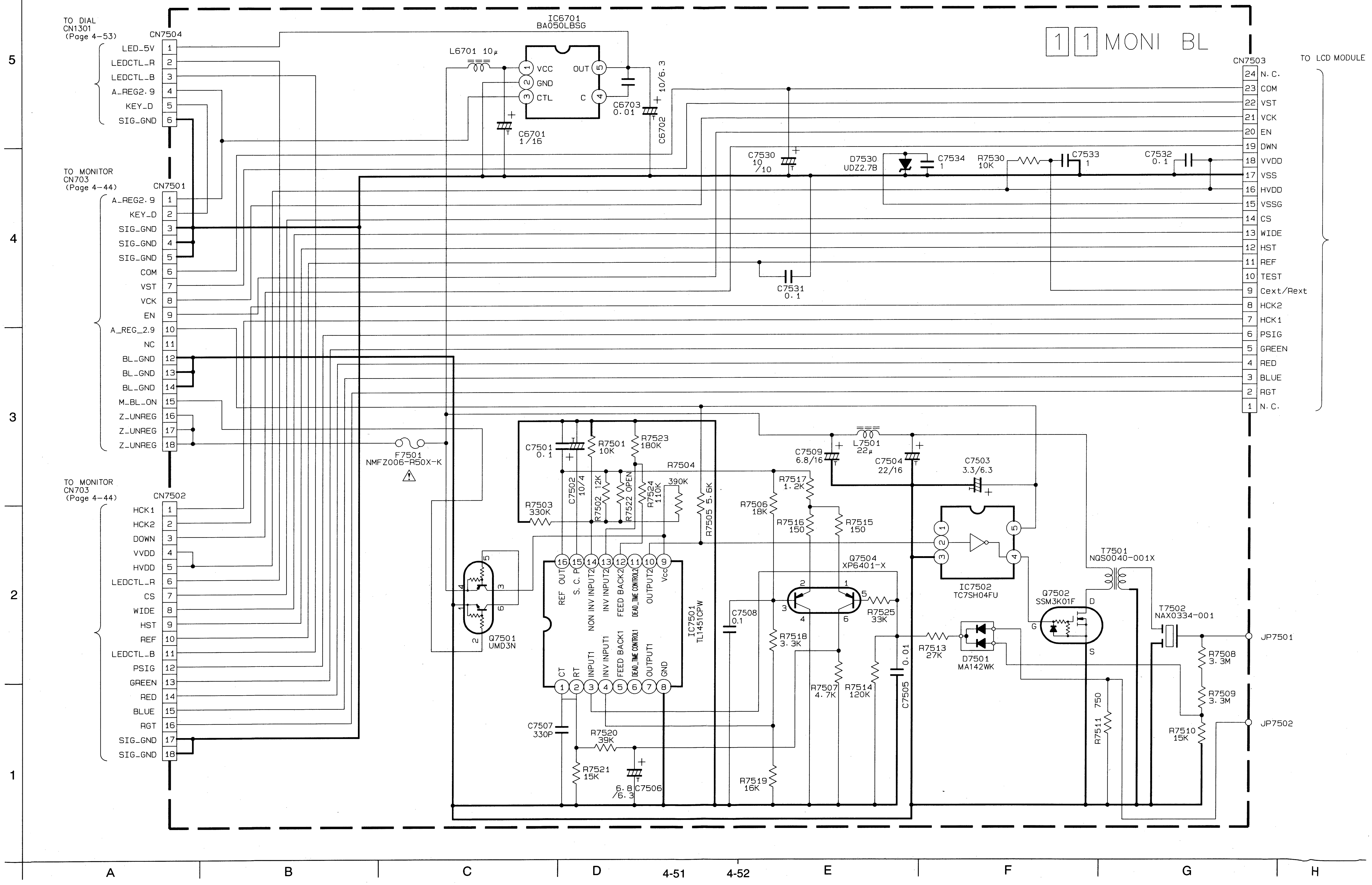
NOTE: When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



1 4 MPL
R5408
OPEN
R5407
470
MPL
IC5401
W194-70G-X
1 FB
2 IN
3 GND
4 FS0
8 OUT2
7 VDD
6 OUT1
5 FS1
IN
R5409
0Ω
R5401
OPEN
R5402
OPEN
R5403
OPEN
R5404
180
R5405
0Ω
R5406
OPEN
C5404
10p
R5413
0Ω
C5402
OPEN
C5401
0.1
C5407
OPEN
C5403
10/6.3
C5408
0.1
C5406
10/6.3
L5401
NQR0129-002X
CN5401
1 GND
2 GND
3 CK72
4 FCK
5 36A
6 VDD
TO CCD/AD
CN803
(Page 4-46)
5
4
3
2
1
A
B
C
D
E
F
G
H

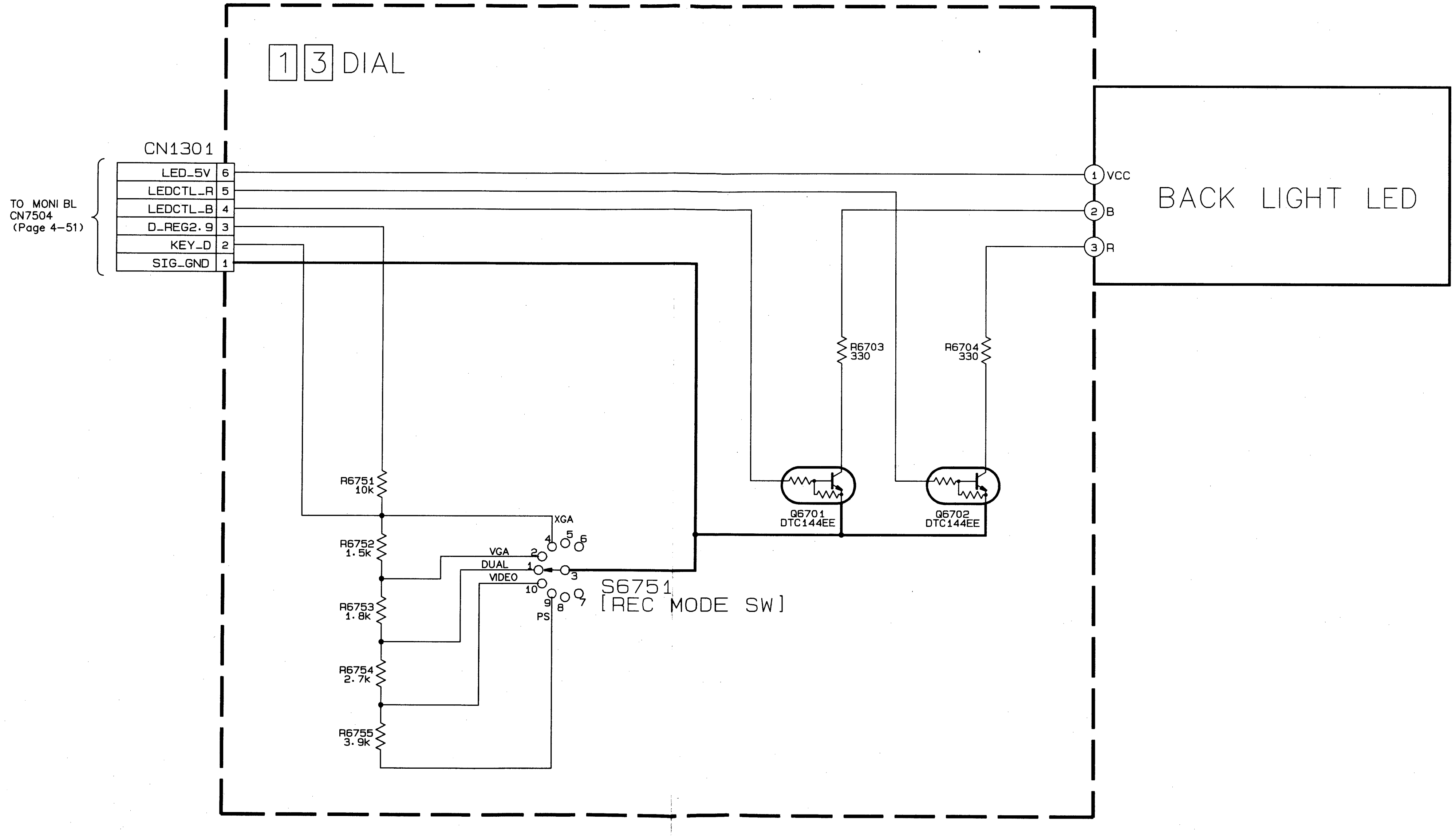
4.25 MONITOR BL SCHEMATIC DIAGRAM

NOTE: When ordering parts, be sure to order according to the Part Number indicated in the Parts List.


1 1 MONI BL
TO DIAL CN1301 (Page 4–53)
CN7504
LED_5V 1
LEDCTL_R 2
LEDCTL_B 3
A_REG2.9 4
KEY_D 5
SIG_GND 6
TO MONITOR CN703 (Page 4–44)
CN7501
A_REG2.9 1
KEY_D 2
SIG_GND 3
SIG_GND 4
SIG_GND 5
COM 6
VST 7
VCK 8
EN 9
A_REG_2.9 10
NC 11
BL_GND 12
BL_GND 13
BL_GND 14
M_BL_ON 15
Z_UNREG 16
Z_UNREG 17
Z_UNREG 18
TO MONITOR CN703 (Page 4–44)
CN7502
HCK1 1
HCK2 2
DOWN 3
VVDD 4
HVDD 5
LEDCTL_R 6
CS 7
WIDE 8
HST 9
REF 10
LEDCTL_B 11
PSIG 12
GREEN 13
RED 14
BLUE 15
RGT 16
SIG_GND 17
SIG_GND 18
IC6701 BA050LBSG
L6701 10μ
VCC 1
GND 2
CTL 3
OUT 5
C 4
C6701 1/16
C6703 0.01
C6702 10/6.3
TO LCD MODULE
CN7503
24 N.C.
23 COM
22 VST
21 VCK
20 EN
19 DWN
18 VVDD
17 VSS
16 HVDD
15 VSSG
14 CS
13 WIDE
12 HST
11 REF
10 TEST
9 Cext/Rext
8 HCK2
7 HCK1
6 PSIG
5 GREEN
4 RED
3 BLUE
2 RGT
1 N.C.
C7530 10/10
D7530 UDZ2.7B
C7534 1
R7530 10K
C7533 1
C7532 0.1
C7531 0.1
F7501 NMFZ006-R50X-K
⚠
Q7501 UMD3N
C7501 0.1
C7502 10/4
R7501 10K
R7523 180K
R7504 390K
R7503 330K
R7502 12K
R7522 OPEN
R7524 110K
R7505 5.6K
IC7501 TL1451CPW
REF OUT 16
S.C.P. 15
NON INV INPUT2 14
INV INPUT2 13
FEED BACK2 12
DEAD_TIME CONTROL2 11
OUTPUT2 10
Vcc 9
CT 1
RT 2
INPUT1 3
INV INPUT1 4
FEED BACK1 5
DEAD_TIME CONTROL1 6
OUTPUT1 7
GND 8
C7507 330P
R7520 39K
R7521 15K
C7506 6.8/6.3
C7508 0.1
R7519 16K
C7509 6.8/16
L7501 22μ
C7504 22/16
C7503 3.3/6.3
R7517 1.2K
R7506 18K
R7516 150
R7515 150
Q7504 XP6401-X
R7525 33K
R7518 3.3K
R7507 4.7K
R7514 120K
C7505 0.01
IC7502 TC7SH04FU
R7513 27K
D7501 MA142WK
Q7502 SSM3K01F
G D S
T7501 NQS0040-001X
T7502 NAX0334-001
R7511 750
R7508 3.3M
R7509 3.3M
R7510 15K
JP7501
JP7502
1 2 3 4 5
A B C D E F G H

4.26 DIAL SCHEMATIC DIAGRAM

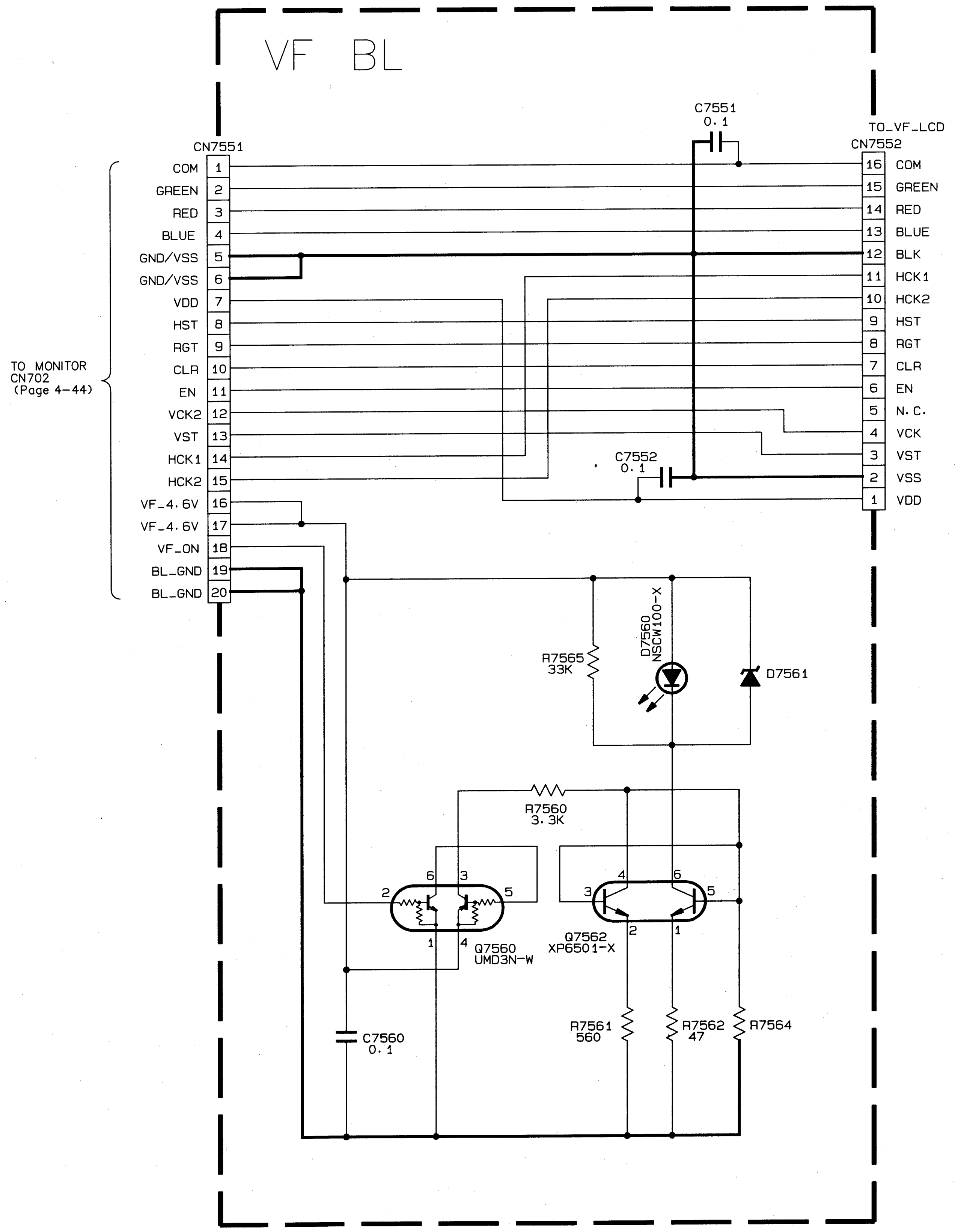
NOTE: When ordering parts, be sure to order according to the Part Number indicated in the Parts List.

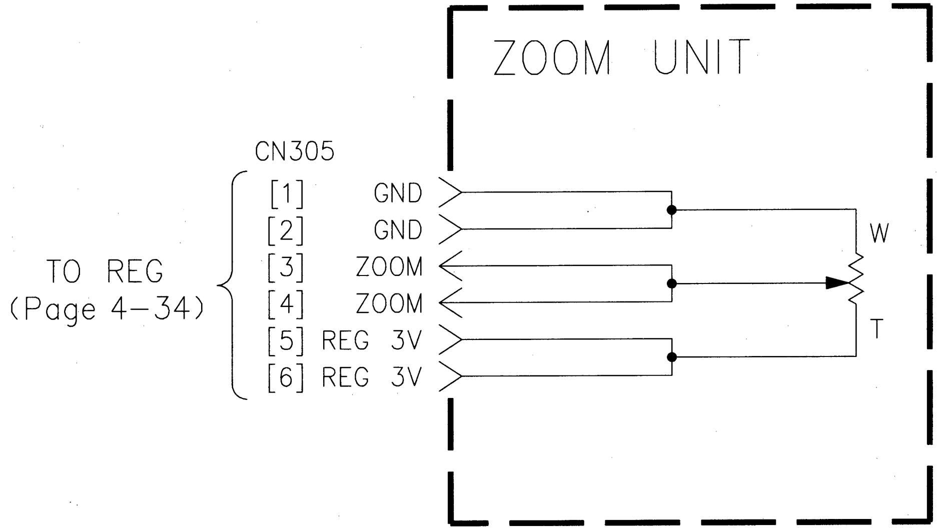


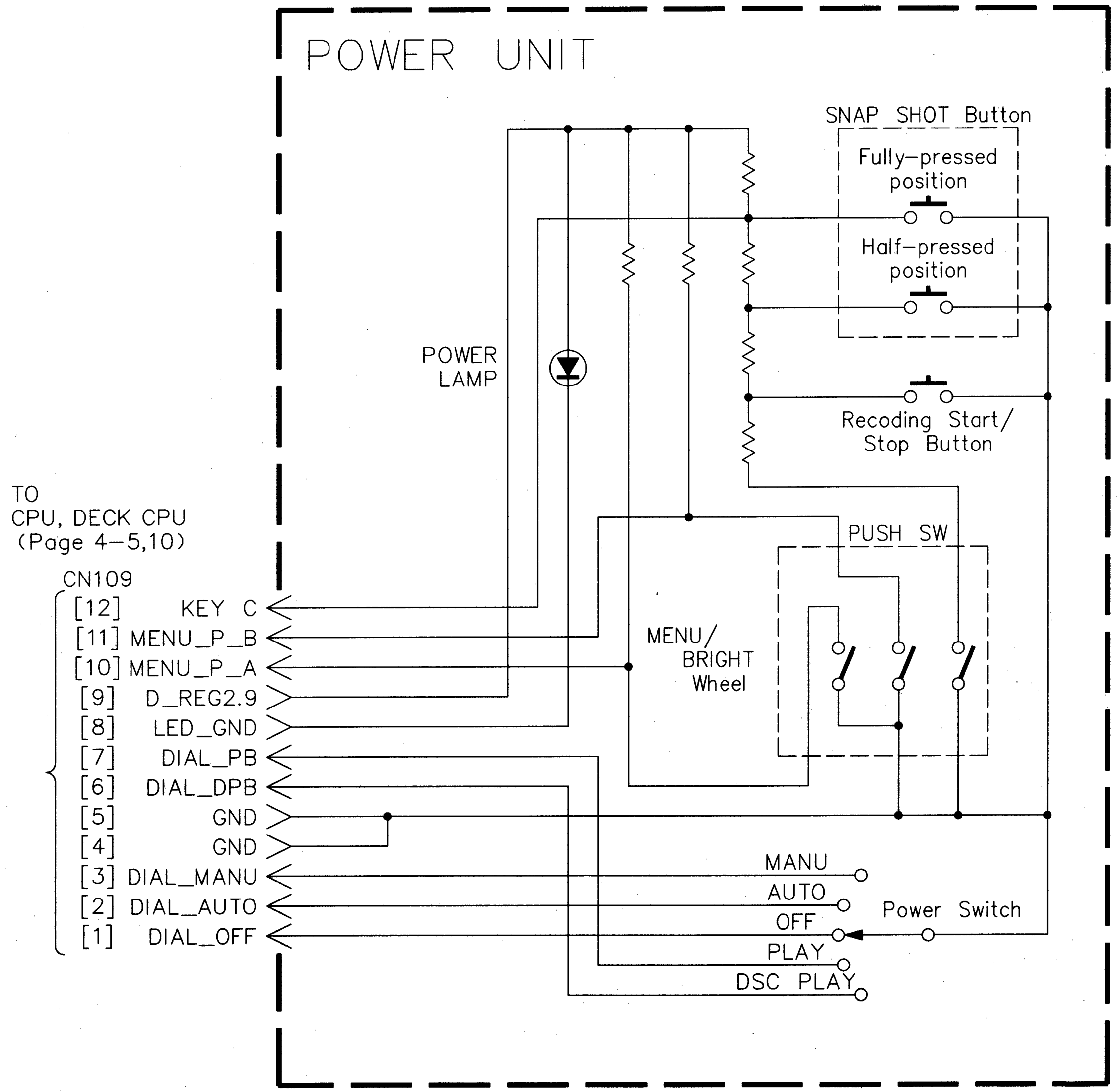
13 DIAL
CN1301
TO MONI BL
CN7504
(Page 4−51)
LED_5V 6
LEDCTL_R 5
LEDCTL_B 4
D_REG2.9 3
KEY_D 2
SIG_GND 1
BACK LIGHT LED
1 VCC
2 B
3 R
R6703
330
R6704
330
Q6701
DTC144EE
Q6702
DTC144EE
R6751
10k
R6752
1.5k
R6753
1.8k
R6754
2.7k
R6755
3.9k
XGA
VGA
DUAL
VIDEO
PS
S6751
[REC MODE SW]

4.27 VF BL,ZOOM UNIT AND POWER UNIT SCHEMATIC DIAGRAMS

NOTE: The schematic diagram is only for reference.
Avoid replacing individual parts.
Replace the entire unit only.

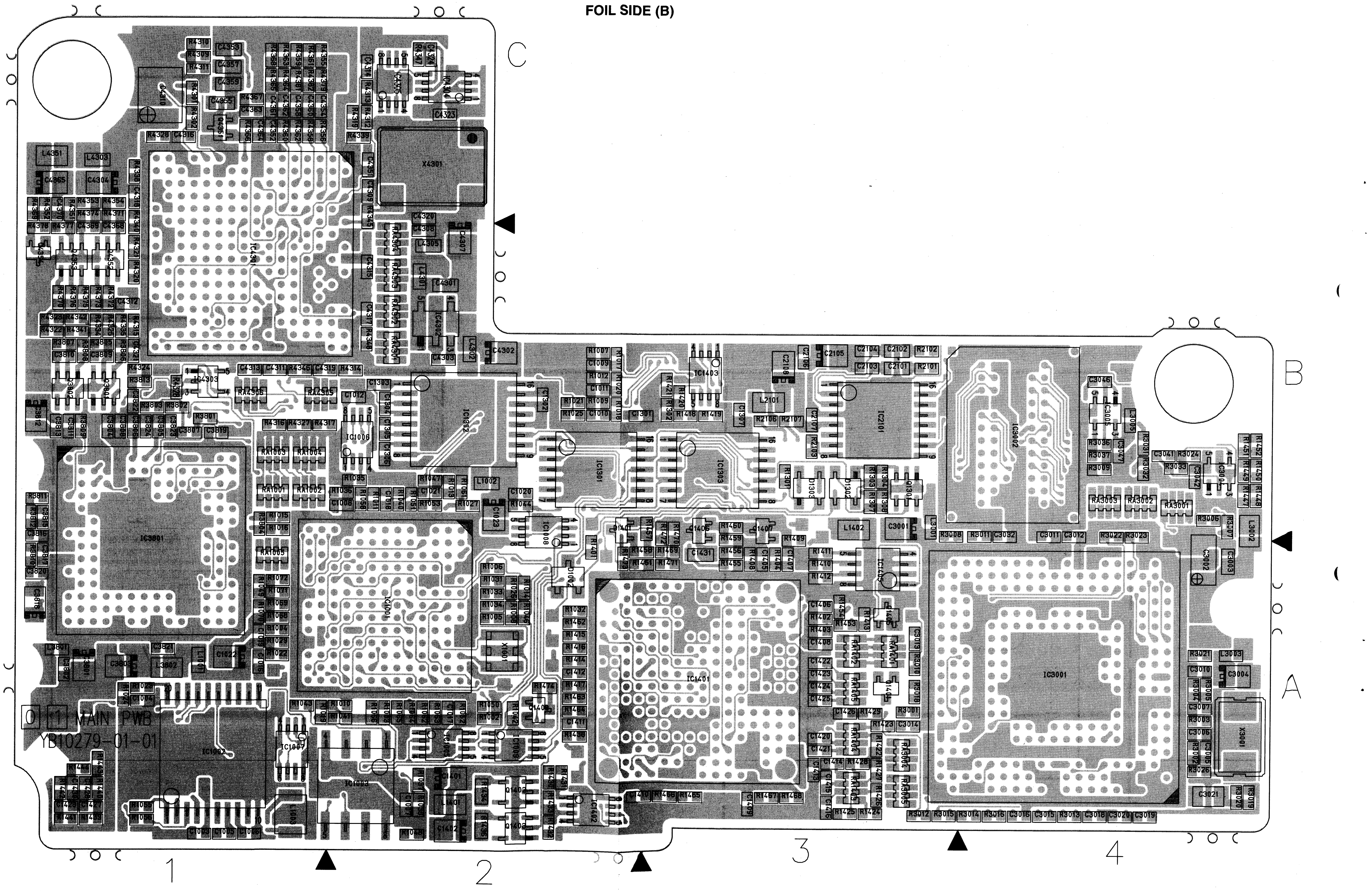

VF BL
TO MONITOR CN702 (Page 4-44)
CN7551
COM 1
GREEN 2
RED 3
BLUE 4
GND/VSS 5
GND/VSS 6
VDD 7
HST 8
RGT 9
CLR 10
EN 11
VCK2 12
VST 13
HCK1 14
HCK2 15
VF_4.6V 16
VF_4.6V 17
VF_ON 18
BL_GND 19
BL_GND 20
C7551 0.1
TO_VF_LCD
CN7552
16 COM
15 GREEN
14 RED
13 BLUE
12 BLK
11 HCK1
10 HCK2
9 HST
8 RGT
7 CLR
6 EN
5 N.C.
4 VCK
3 VST
2 VSS
1 VDD
C7552 0.1
R7565 33K
D7560 NSCW100-X
D7561
R7560 3.3K
Q7560 UMD3N-W
Q7562 XP6501-X
C7560 0.1
R7561 560
R7562 47
R7564


ZOOM UNIT
TO REG (Page 4-34)
CN305
[1] GND
[2] GND
[3] ZOOM
[4] ZOOM
[5] REG 3V
[6] REG 3V
W
T


POWER UNIT
TO CPU, DECK CPU (Page 4-5,10)
CN109
[12] KEY C
[11] MENU_P_B
[10] MENU_P_A
[9] D_REG2.9
[8] LED_GND
[7] DIAL_PB
[6] DIAL_DPB
[5] GND
[4] GND
[3] DIAL_MANU
[2] DIAL_AUTO
[1] DIAL_OFF
POWER LAMP
SNAP SHOT Button
Fully-pressed position
Half-pressed position
Recoding Start/ Stop Button
PUSH SW
MENU/ BRIGHT Wheel
MANU
AUTO
OFF
PLAY
DSC PLAY
Power Switch

4.28 MAIN CIRCUIT BOARD

FOIL SIDE (B)


C
B
A
1
2
3
4
0 1 MAIN PWB
YB10279-01-01
IC4301
X4301
IC3801
IC1001
IC1401
IC3001
IC3002
IC2101
IC1301
IC1303
IC1302
IC1002
IC1003
IC1006
IC1007
IC1008
IC1403
IC1402
IC4302
IC4303
IC4304
IC4305
X1001
X3001
L4351
L4303
C4365
C4304
L2101
L1402
L3002
L3003
L3601
L1002

COMPONENT PARTS LOCATION GUIDE (MAIN)

CAPACITOR

REF.No.	LOCATION		
C1003	B	C	1A
C1004	B	C	1A
C1005	B	C	1A
C1006	B	C	1A
C1007	B	C	2A
C1008	B	C	2B
C1009	B	C	2B
C1010	B	C	2B
C1011	B	C	2B
C1012	B	C	2B
C1013	A	C	2C
C1014	A	C	2C
C1015	A	C	2C
C1016	B	C	1A
C1017	B	C	2A
C1018	B	C	2B
C1019	B	C	1A
C1020	B	C	2B
C1021	B	C	2B
C1022	B	C	1A
C1023	B	C	2B
C1301	B	C	2B
C1302	B	C	2B
C1303	B	C	2B
C1304	B	C	2B
C1305	B	C	2B
C1306	B	C	2B
C1307	B	C	3B
C1401	B	C	2A
C1402	B	C	2A
C1405	B	C	3A
C1406	B	C	3A
C1407	B	C	3A
C1408	B	C	3A
C1409	B	C	3A
C1410	B	C	2A
C1411	B	C	2A
C1412	B	C	2A
C1413	B	C	3A
C1414	B	C	3A
C1415	B	C	3A
C1416	B	C	3A
C1420	B	C	3A
C1421	B	C	3A
C1422	B	C	3A
C1423	B	C	3A
C1424	B	C	3A
C1425	B	C	3A
C1426	B	C	3A
C1427	B	C	1A
C1428	B	C	1A
C1429	B	C	1A
C1430	B	C	1A
C1431	B	C	3A
C2101	B	C	3B
C2102	B	C	3B
C2103	B	C	3B
C2104	B	C	3B
C2105	B	C	3B
C2106	B	C	3B
C2107	B	C	3B
C2108	B	C	3B
C3001	B	C	3A
C3002	B	C	4A
C3003	B	C	4A
C3004	B	C	4A
C3005	B	C	4A
C3006	B	C	4A
C3007	B	C	4A
C3010	B	C	4A
C3011	B	C	4A
C3012	B	C	4A
C3013	B	C	3A
C3014	B	C	3A
C3015	B	C	4A
C3016	B	C	4A
C3017	A	C	2A
C3018	B	C	4A
C3019	B	C	4A
C3020	B	C	4A
C3021	B	C	4A
C3032	B	C	4A
C3041	B	C	4B
C3042	B	C	4B
C3046	B	C	4B
C3047	B	C	4B
C3201	A	C	1A
C3202	A	C	1A
C3203	A	C	1A
C3204	A	C	1A
C3205	A	C	1B
C3206	A	C	1B
C3207	A	C	2A
C3208	A	C	2A
C3209	A	C	1A
C3210	A	C	1A
C3211	A	C	1B
C3212	A	C	2B
C3213	A	C	1A
C3214	A	C	1B
C3215	A	C	1B
C3216	A	C	2A
C3217	A	C	1A
C3218	A	C	2A
C3221	A	C	2B
C3222	A	C	2B
C3301	A	C	3A
C3302	A	C	2A
C3303	A	C	2B
C3304	A	C	3B
C3305	A	C	2A
C3306	A	C	2A
C3307	A	C	2B
C3308	A	C	2B
C3309	A	C	2B
C3310	A	C	2B
C3311	A	C	2B
C3312	A	C	2B
C3313	A	C	2B
C3314	A	C	3B
C3315	A	C	3B
C3316	A	C	3B
C3317	A	C	3A
C3318	A	C	3A
C3319	A	C	3A
C3320	A	C	3A
C3321	A	C	3A
C3322	A	C	2A
C3323	A	C	2A
C3324	A	C	2A
C3325	A	C	2A
C3326	A	C	2A
C3327	A	C	2A
C3328	A	C	2A
C3329	A	C	2A
C3330	A	C	2A
C3331	A	C	2A
C3332	A	C	2A
C3341	A	C	2B
C3342	A	C	2B
C3343	A	C	2B
C3401	A	C	2B
C3402	A	C	1B
C3551	A	C	2A
C3552	A	C	2A
C3702	A	C	4B
C3703	A	C	4B
C3704	A	C	4B
C3705	A	C	4A
C3706	A	C	4A
C3707	A	C	4A
C3708	A	C	4A
C3709	A	C	4A
C3710	A	C	4A
C3711	A	C	4A
C3712	A	C	4A
C3713	A	C	4A
C3714	A	C	4B
C3715	A	C	4A
C3716	A	C	4A
C3717	A	C	4A
C3721	A	C	4B
C3722	A	C	4B
C3723	A	C	4B
C3724	A	C	4B
C3731	A	C	4B
C3732	A	C	4B
C3733	A	C	4B
C3734	A	C	4B
C3735	A	C	4B
C3736	A	C	4B
C3801	B	C	1A
C3802	B	C	1A
C3803	B	C	1A
C3804	B	C	1B
C3805	B	C	1B
C3806	B	C	1B
C3807	B	C	1B
C3808	B	C	1B
C3809	B	C	1B
C3810	B	C	1B
C3811	B	C	1B
C3812	B	C	1B
C3813	B	C	1B
C3815	B	C	1B
C3816	B	C	1A
C3817	B	C	1A
C3818	B	C	1A
C3819	B	C	1B
C3820	B	C	1A
C3821	B	C	1A
C3822	B	C	1B
C3823	B	C	1B
C3824	B	C	1B
C3851	A	C	3A
C3852	A	C	3A
C3853	A	C	3A
C3854	A	C	3A
C3855	A	C	3A
C3856	A	C	4A
C3857	A	C	3A
C3858	A	C	3A
C3859	A	C	3B
C3860	A	C	3B
C3861	A	C	3B
C3862	A	C	3A
C4281	A	C	1B
C4282	A	C	1B
C4283	A	C	1C
C4284	A	C	1C
C4285	A	C	1C
C4286	A	C	1C
C4287	A	C	1C
C4288	A	C	2B
C4301	B	C	2B
C4302	B	C	2B
C4303	B	C	2B
C4304	B	C	1C
C4307	B	C	2B
C4308	B	C	2B
C4309	B	C	2C
C4310	B	C	1C
C4311	B	C	1B
C4312	B	C	1B
C4313	B	C	1B
C4314	B	C	2C
C4315	B	C	2B
C4316	B	C	1C
C4317	B	C	2B
C4318	B	C	1C
C4319	B	C	1B
C4320	B	C	2B
C4321	B	C	1B
C4323	B	C	2C
C4324	B	C	2C
C4351	B	C	2C
C4352	B	C	1C
C4353	B	C	1C
C4354	B	C	1C
C4355	B	C	1C
C4357	B	C	1C
C4358	B	C	1C
C4359	B	C	1C
C4360	B	C	1C
C4361	B	C	1C
C4362	B	C	1C
C4363	B	C	1C
C4364	B	C	1C
C4365	B	C	1C
C4368	B	C	1B
C4369	B	C	1B
C4370	B	C	1B
C6001	A	C	1A
C6002	A	C	1A
C6003	A	C	1B
C6004	A	C	1A
C6005	A	C	1B
C6006	A	C	1B
C6007	A	C	1B
C6008	A	C	1B
C6009	A	C	1A

CONNECTOR

REF.No.	LOCATION		
CN101	A	C	2A
CN102	A	C	2A
CN103	A	C	1B
CN104	A	C	4B
CN105	A	C	4B
CN106	A	C	4A
CN107	A	C	3A
CN108	A	C	1A
CN109	A	C	1B

DIODE

REF.No.	LOCATION		
D1002	B	C	2A
D1302	B	C	3B
D1303	B	C	3B
D1401	B	C	2A
D3701	A	C	4A
D6001	A	C	1A
D6002	A	C	1B

IC

REF.No.	LOCATION		
IC1001	B	C	2A
IC1002	B	C	1A
IC1003	B	C	2A
IC1004	A	C	2C
IC1005	B	C	2A
IC1006	B	C	2B
IC1007	B	C	1A
IC1008	B	C	2A
IC1009	B	C	2A
IC1301	B	C	2B
IC1302	B	C	2B
IC1303	B	C	3B
IC1401	B	C	3A
IC1402	B	C	2A
IC1403	B	C	3B
IC1405	B	C	3A
IC2101	B	C	3B
IC3001	B	C	4A
IC3002	B	C	4B
IC3004	B	C	4B
IC3005	B	C	4B
IC3201	A	C	1A
IC3202	A	C	2B
IC3203	A	C	2A
IC3301	A	C	2A
IC3302	A	C	2B
IC3401	A	C	1B
IC3701	A	C	4A
IC3702	A	C	4B
IC3801	B	C	1A
IC3851	A	C	3A
IC4301	B	C	1B
IC4302	B	C	2B
IC4303	B	C	1B
IC4304	B	C	2C
IC4305	B	C	2C
IC6001	A	C	1A
IC6002	A	C	1B
IC6003	A	C	1B
IC6004	A	C	1B

COIL

REF.No.	LOCATION		
L1001	B	C	1A
L1002	B	C	2B
L1003	B	C	1A
L1401	B	C	2A
L1402	B	C	3A
L2101	B	C	3B
L3001	B	C	3A
L3002	B	C	4A
L3003	B	C	4A
L3005	B	C	4B
L3201	A	C	1A
L3202	A	C	1A
L3301	A	C	3A
L3302	A	C	2A
L3303	A	C	2A
L3304	A	C	2B
L3305	A	C	2B
L3401	A	C	2B
L3551	A	C	2A
L3701	A	C	4B
L3731	A	C	4B
L3732	A	C	4B
L3801	B	C	1A
L3802	B	C	1A
L3851	A	C	3B
L4281	A	C	1C
L4282	A	C	2B
L4301	B	C	2B
L4302	B	C	2B
L4303	B	C	1C
L4305	B	C	2B
L4351	B	C	1C
L6001	A	C	1B

TRANSISTOR

REF.No.	LOCATION		
Q1301	B	C	3B
Q1401	B	C	3A
Q1402	B	C	2A
Q1403	B	C	2A
Q1405	B	C	3A
Q1406	B	C	3A
Q1407	B	C	3A
Q1408	B	C	2A
Q3551	A	C	2A
Q3552	A	C	2A
Q3701	A	C	4B
Q3702	A	C	4A
Q3703	A	C	4A
Q3704	A	C	4A
Q3705	A	C	4A
Q3706	A	C	4A
Q3731	A	C	4B
Q3801	B	C	1B
Q3802	B	C	1B
Q3851	A	C	3A
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Q3856	A	C	3A
Q3857	A	C	3B
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Q6004	A	C	1A
Q6005	A	C	1A
Q6006	A	C	1B
Q6007	A	C	1A

RESISTOR

REF.No.	LOCATION		
R1001	A	C	1C
R1002	B	C	2A
R1003	B	C	2A
R1004	B	C	1A
R1005	B	C	2A
R1006	B	C	2A
R1007	B	C	2B
R1008	B	C	2A
R1009	B	C	2B
R1010	B	C	2A
R1011	B	C	2B
R1012	B	C	2B
R1013	B	C	2B
R1014	B	C	2A
R1015	B	C	1B
R1016	B	C	1A
R1017	B	C	2B
R1018	B	C	2B
R1019	B	C	1A
R1020	B	C	2B
R1021	B	C	2B
R1022	B	C	1A
R1023	B	C	1A
R1024	B	C	1A

REF.No.	LOCATION		
R1025	B	C	2B
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R1031	B	C	2A
R1032	B	C	2A
R1033	B	C	2A
R1034	B	C	2A
R1035	B	C	2B
R1036	B	C	2B
R1037	B	C	2A
R1038	B	C	2A
R1040	B	C	2B
R1041	B	C	2A
R1042	B	C	2A
R1043	B	C	1A
R1044	B	C	2B
R1045	A	C	2C
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R3037	B	C	4B
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R3202	A	C	1A
R3203	A	C	2B
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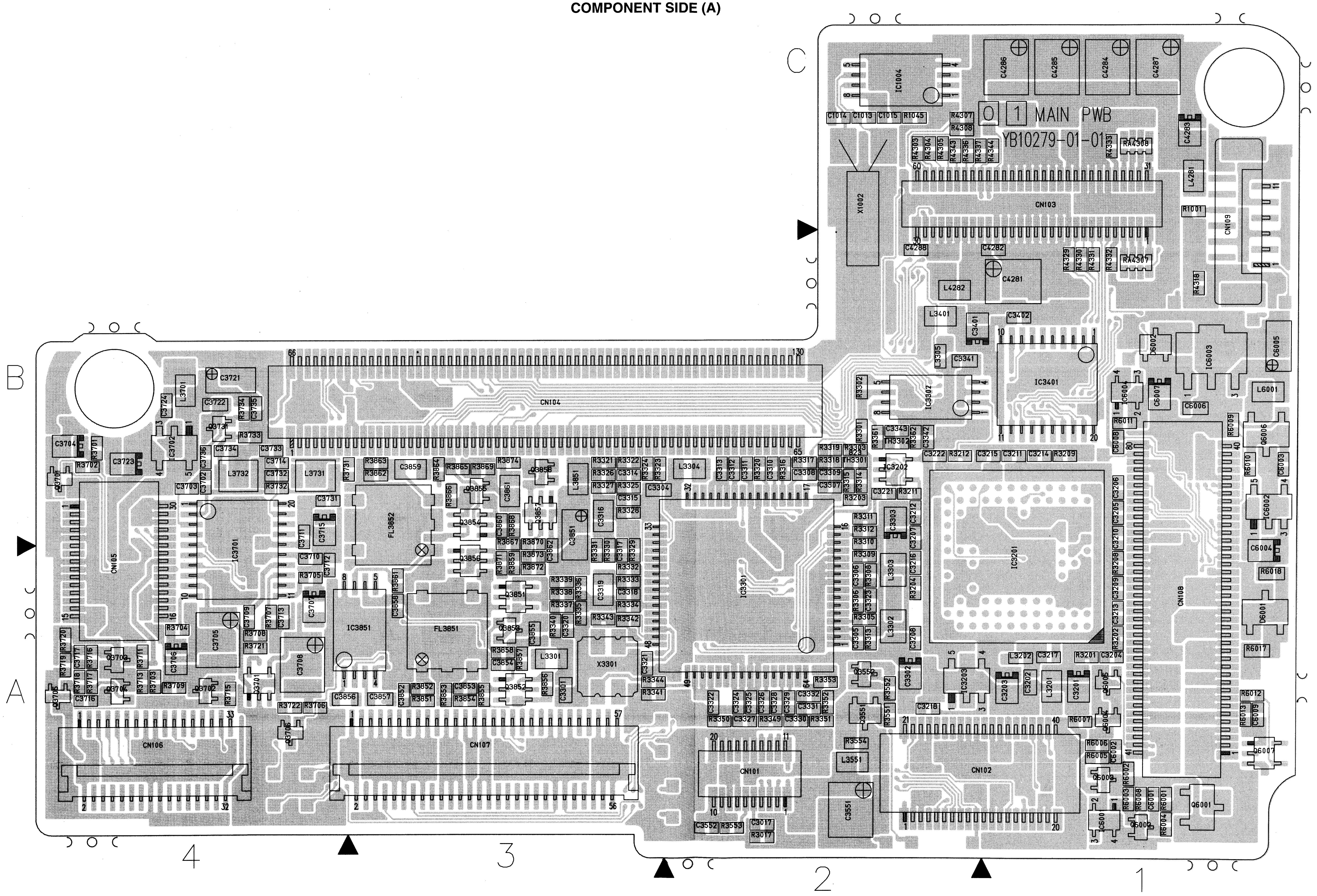
RA1405	B	C	3A
RA3001	B	C	4B
RA3002	B	C	4B
RA3003	B	C	4B
RA3004	B	C	3A
RA3005	B	C	3A
RA4301	B	C	2B
RA4302	B	C	2B
RA4303	B	C	2B
RA4304	B	C	2B
RA4305	B	C	1B
RA4306	B	C	1B
RA4307	A	C	1B
RA4308	A	C	1C

OTHER			
FL3851	A	C	3A
FL3852	A	C	3B
JP3201	B	C	1A
JP4301	B	C	1C
TH3301	A	C	2B
TH3302	A	C	2B
X1001	B	C	2A
X1002	A	C	2C
X3001	B	C	4A
X3301	A	C	3A
X4301	B	C	2C

COMPONENT SIDE (A)


C
B
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IC1004
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C4287
C4283
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R1001
CN109
X1002
CN103
C4281
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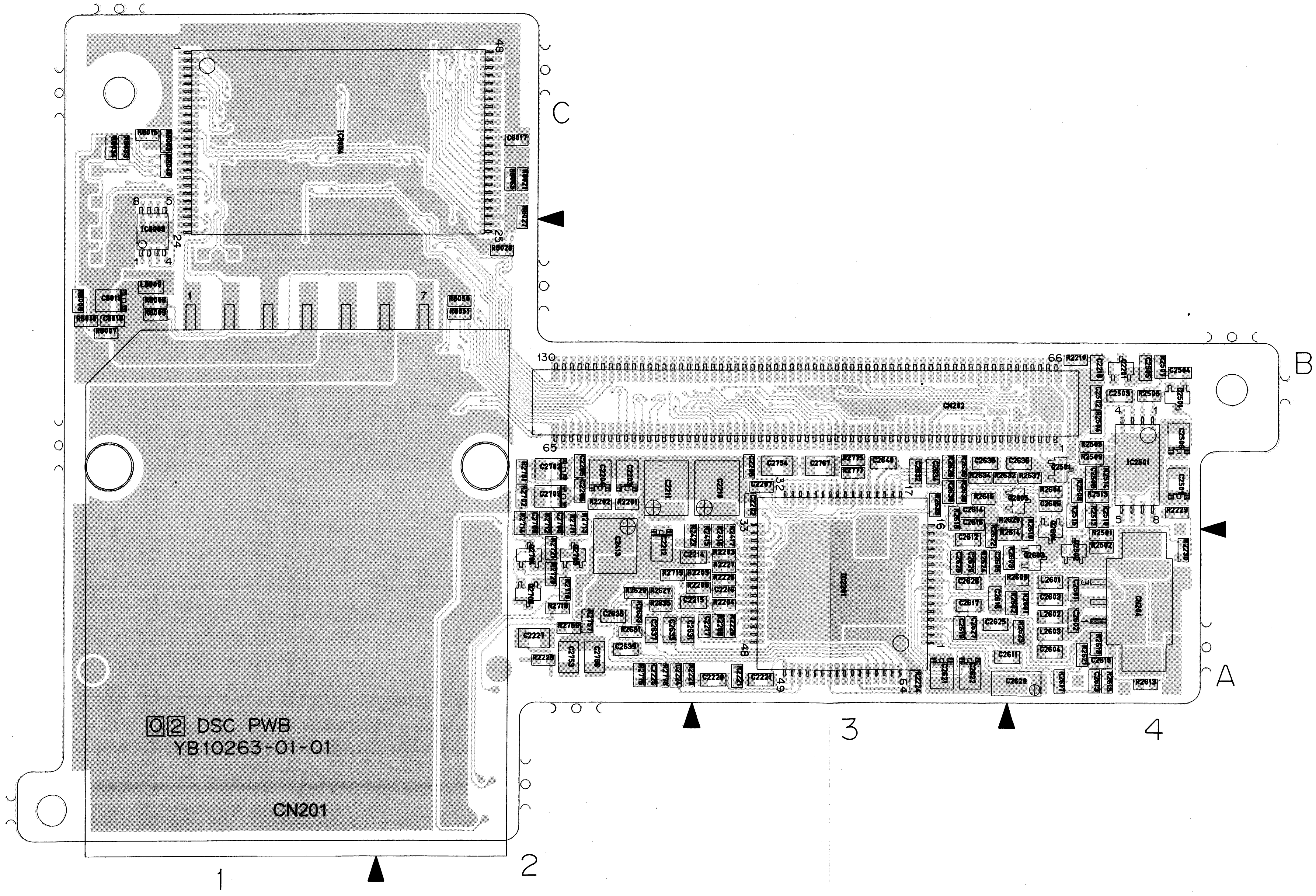
L3401
C3402
IC3401
IC3302
IC6003
C6005
L6001
CN104
L3701
C3721
CN105
IC3701
FL3852
FL3851
IC3851
IC3301
X3301
IC3201
CN108
CN106
CN107
CN101
CN102
C3551
L3551
Q6001
Q6007
Q6006
C6004

4.29 DSC CIRCUIT BOARD

FOIL SIDE (B)



COMPONENT PARTS LOCATIONGUIDE (DSC)

REF.No.	LOCATION		
CAPACITOR			
C1201	A	C	3A
C1202	A	C	3A
C1203	A	C	3A
C1204	A	C	3A
C2202	B	C	3B
C2203	B	C	2B
C2204	B	C	2B
C2205	B	C	2B
C2206	B	C	2B
C2207	B	C	3B
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C2210	B	C	3B
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C8056	A	C	2C
C8057	A	C	1B
C8058	A	C	2B
C8059	A	C	1C
C8060	A	C	1C
CONNECTOR			
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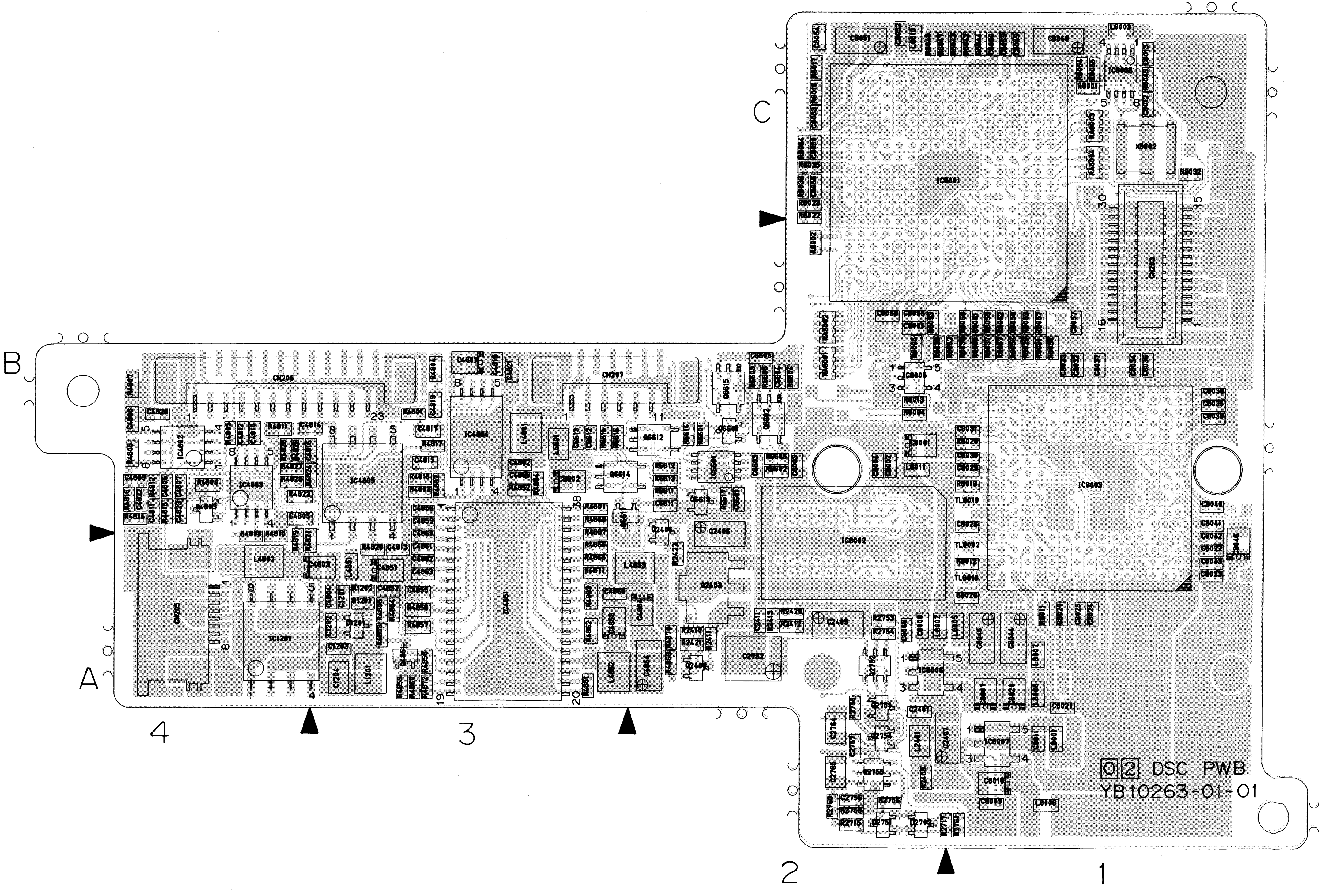
CN202	B	C	4B
CN203	A	C	1B
CN204	B	C	4A
CN205	A	C	4A
CN206	A	C	4B
CN207	A	C	3B
DIODE			
D1201	A	C	3A
D2501	B	C	4B
D2502	B	C	4A
D2702	A	C	2A
D2751	A	C	2A
IC			
IC1201	A	C	4A
IC2201	B	C	3A
IC2501	B	C	4B
IC4802	A	C	4B
IC4803	A	C	4B
IC4804	A	C	3B
IC4805	A	C	3B
IC4851	A	C	3A
IC6601	A	C	2B
IC8001	A	C	2C
IC8002	A	C	2A
IC8003	A	C	1B
IC8004	B	C	1C
IC8005	A	C	2B
IC8006	A	C	2A
IC8007	A	C	1A
IC8008	A	C	1C
IC8009	B	C	1B
COIL			
L1201	A	C	3A
L2401	A	C	2A
L2601	B	C	4A
L2602	B	C	4A
L2603	B	C	4A
L4801	A	C	3B
L4802	A	C	4A
L4851	A	C	3A
L4852	A	C	3A
L4853	A	C	2A
L6601	A	C	3B
L8001	A	C	1A
L8002	A	C	2A
L8003	A	C	1C
L8005	A	C	1A
L8006	A	C	1A
L8007	A	C	1A
L8008	A	C	1A
L8009	B	C	1B
L8010	A	C	2C
L8011	A	C	2B
TRANSISTOR			
Q2201	B	C	4B
Q2403	A	C	2A
Q2405	A	C	2A
Q2406	A	C	2A
Q2501	B	C	4B
Q2603	B	C	4A
Q2604	B	C	4A
Q2605	B	C	4B
Q2703	B	C	2A

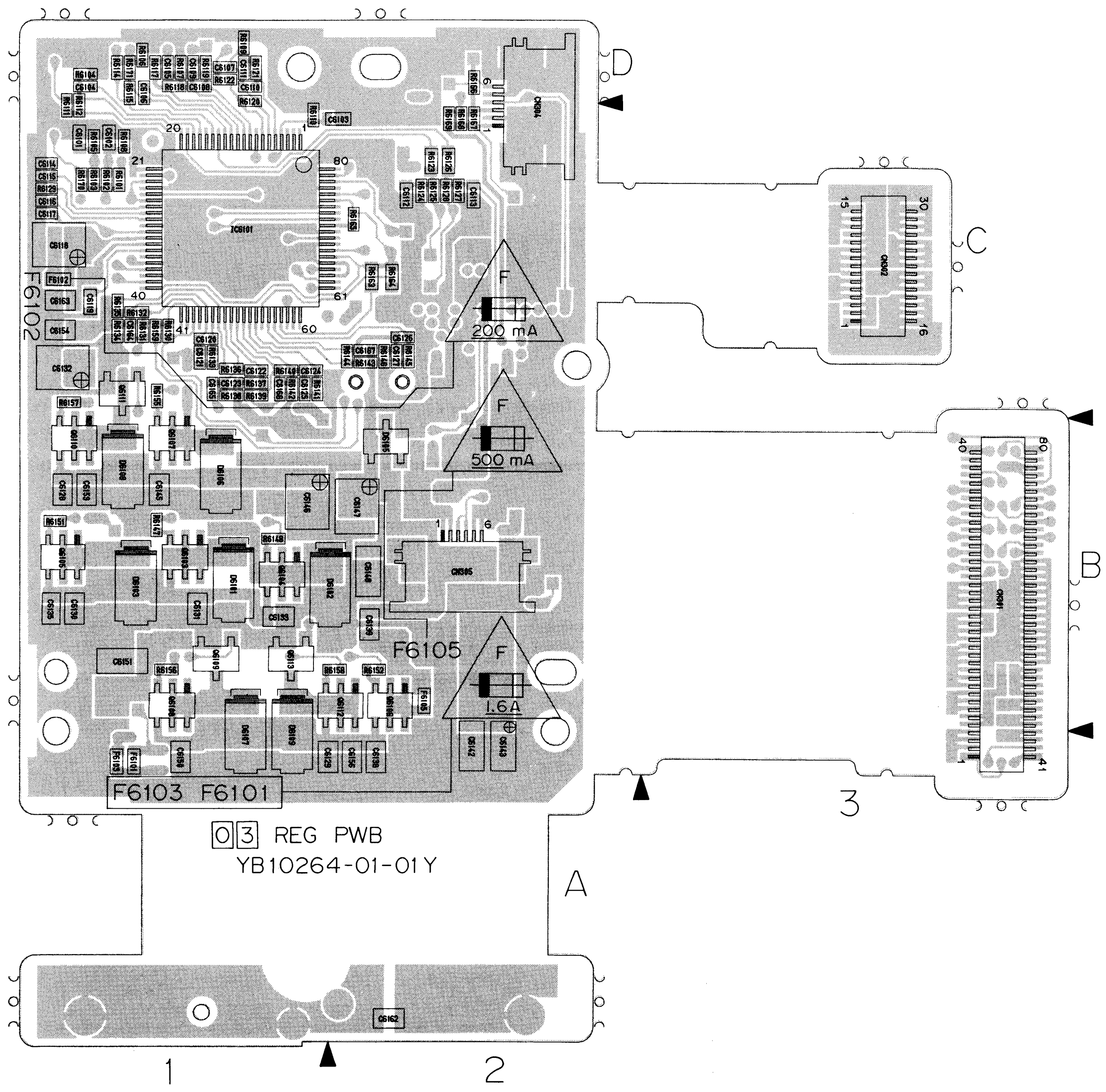
REF.No.	LOCATION		
Q2704	B	C	2A
Q2705	B	C	2A
Q2751	A	C	2A
Q2752	A	C	2A
Q2754	A	C	2A
Q2755	A	C	2A
Q4803	A	C	4B
Q4851	A	C	3A
Q6601	A	C	2B
Q6602	A	C	2B
Q6611	A	C	3B
Q6612	A	C	2B
Q6613	A	C	2B
Q6614	A	C	3B
Q6615	A	C	2B
RESISTOR			
R1201	A	C	3A
R1202	A	C	3A
R2201	B	C	2B
R2202	B	C	2B
R2203	B	C	3A
R2204	B	C	3A
R2205	B	C	3A
R2206	B	C	3A
R2208	B	C	3A
R2210	B	C	4B
R2220	B	C	3A
R2221	B	C	3A
R2224	B	C	3A
R2225	B	C	3A
R2226	B	C	3A
R2227	B	C	3A
R2228	B	C	2A
R2229	B	C	4B
R2230	B	C	4A
R2408	A	C	2A
R2410	A	C	2A
R2411	A	C	2A
R2412	A	C	2A
R2413	A	C	2A
R2415	B	C	3A
R2416	B	C	3A
R2417	B	C	3A
R2421	A	C	2A
R2422	A	C	2A
R2423	B	C	3A
R2429	A	C	2A
R2501	B	C	4A
R2502	B	C	4A
R2504	B	C	4B
R2505	B	C	4B
R2506	B	C	4B
R2507	B	C	4B
R2508	B	C	4B
R2509	B	C	4B
R2510	B	C	4B
R2512	B	C	4B
R2513	B	C	4B
R2514	B	C	4B
R2515	B	C	4B
R2601	B	C	4A
R2602	B	C	4A
R2603	B	C	4A
R2604	B	C	4B
R2609	B	C	4A
R2610	B	C	4B
R2613	B	C	4A
R2614	B	C	4A
R2615	B	C	4A
R2616	B	C	3B
R2617	B	C	4A
R2618	B	C	3B
R2619	B	C	4A
R2620	B	C	4B
R2621	B	C	4A
R2622	B	C	3A
R2623	B	C	4A
R2624	B	C	3A
R2627	B	C	2A
R2628	B	C	3B
R2629	B	C	2A
R2630	B	C	3B
R2631	B	C	2A
R2632	B	C	4B
R2633	B	C	2A
R2634	B	C	3B
R2635	B	C	2A
R2636	B	C	3B
R2637	B	C	4B
R2638	B	C	3B
R2639	B	C	3B
R2701	B	C	2B
R2702	B	C	2B
R2710	B	C	2A
R2711	B	C	2B
R2712	B	C	2B
R2713	B	C	2B
R2714	B	C	2B
R2715	A	C	2A
R2717	A	C	2A
R2718	B	C	2A
R2719	B	C	2A
R2720	B	C	2A
R2721	B	C	2A
R2753	A	C	2A
R2754	A	C	2A
R2755	A	C	2A
R2756	A	C	2A
R2757	B	C	2A
R2758	A	C	2A
R2759	B	C	2A
R2760	A	C	2A
R2761	A	C	1A
R2775	B	C	3B
R2776	B	C	2A
R2777	B	C	3B
R2778	B	C	2A
R4801	A	C	3B
R4802	A	C	3B
R4803	A	C	3B
R4804	A	C	3B
R4805	A	C	4B
R4806	A	C	4B
R4807	A	C	4B
R4808	A	C	4A
R4809	A	C	4B
R4810	A	C	4A
R4811	A	C	4B
R4812	A	C	4B
R4814	A	C	4B
R4815	A	C	4B
R4816	A	C	4B
R4817	A	C	3B
R4818	A	C	3B
R4819	A	C	4A
R4820	A	C	3A
R4821	A	C	4A
R4822	A	C	4B
R4823	A	C	4B
R4824	A	C	4B
R4825	A	C	4B
R4826	A	C	4B
R4827	A	C	4B
R4851	A	C	3B
R4852	A	C	3B
R4853	A	C	3A
R4854	A	C	3A
R4855	A	C	3A
R4856	A	C	3A
R4857	A	C	3A
R4858	A	C	3A
R4859	A	C	3A
R4860	A	C	3A
R4861	A	C	3A
R4862	A	C	3A
R4863	A	C	3A
R4864	A	C	3B
R4865	A	C	3A
R4866	A	C	3A
R4867	A	C	3A
R4868	A	C	3B
R4869	A	C	2A
R4870	A	C	2A
R4871	A	C	3A
R4872	A	C	3A
R6601	A	C	2B
R6602	A	C	2B
R6603	A	C	2B
R6604	A	C	2B
R6605	A	C	2B
R6606	A	C	2B
R6611	A	C	2B
R6612	A	C	2B
R6613	A	C	2B
R6614	A	C	2B
R6615	A	C	3B
R6616	A	C	3B
R6617	A	C	2B
R8001	A	C	1C
R8002	A	C	2B
R8003	B	C	1C
R8004	A	C	2B
R8005	A	C	2B
R8006	B	C	1B
R8007	B	C	1B
R8008	B	C	1B
R8009	B	C	1B
R8010	B	C	1B
R8011	A	C	1A
R8012	A	C	1A
R8013	A	C	2B
R8015	B	C	1C
R8016	A	C	2C
R8017	A	C	2C
R8018	A	C	1B
R8020	A	C	1B
R8021	B	C	2C
R8022	A	C	2B
R8023	A	C	2C
R8027	B	C	2B
R8028	B	C	2B
R8029	A	C	1B
R8030	A	C	1B
R8031	A	C	1B
R8032	A	C	1C
R8033	B	C	1C
R8034	B	C	1C
R8035	A	C	2C
R8036	A	C	2C
R8037	A	C	1B
R8038	A	C	1B
R8039	A	C	2B
R8040	B	C	1C
R8042	A	C	1C
R8043	A	C	1C
R8044	A	C	1C
R8047	A	C	2C
R8048	A	C	2C
R8049	A	C	1C
R8050	B	C	2B
R8051	B	C	2B
R8052	A	C	1B
R8053	A	C	2B
R8054	A	C	1C
R8055	A	C	1C
R8056	A	C	1B
R8057	A	C	1B
R8058	A	C	1B
R8059	A	C	1B
R8060	A	C	1B
R8061	A	C	1B
R8062	A	C	1B
R8063	A	C	1B
R8064	A	C	2C
R8065	B	C	2C
R8066	A	C	1B
R8067	A	C	1B
RA8001	A	C	2B
RA8002	A	C	2B
RA8003	A	C	1C
RA8004	A	C	1C
COIL			
X8002	A	C	1C

COMPONENT SIDE (A)

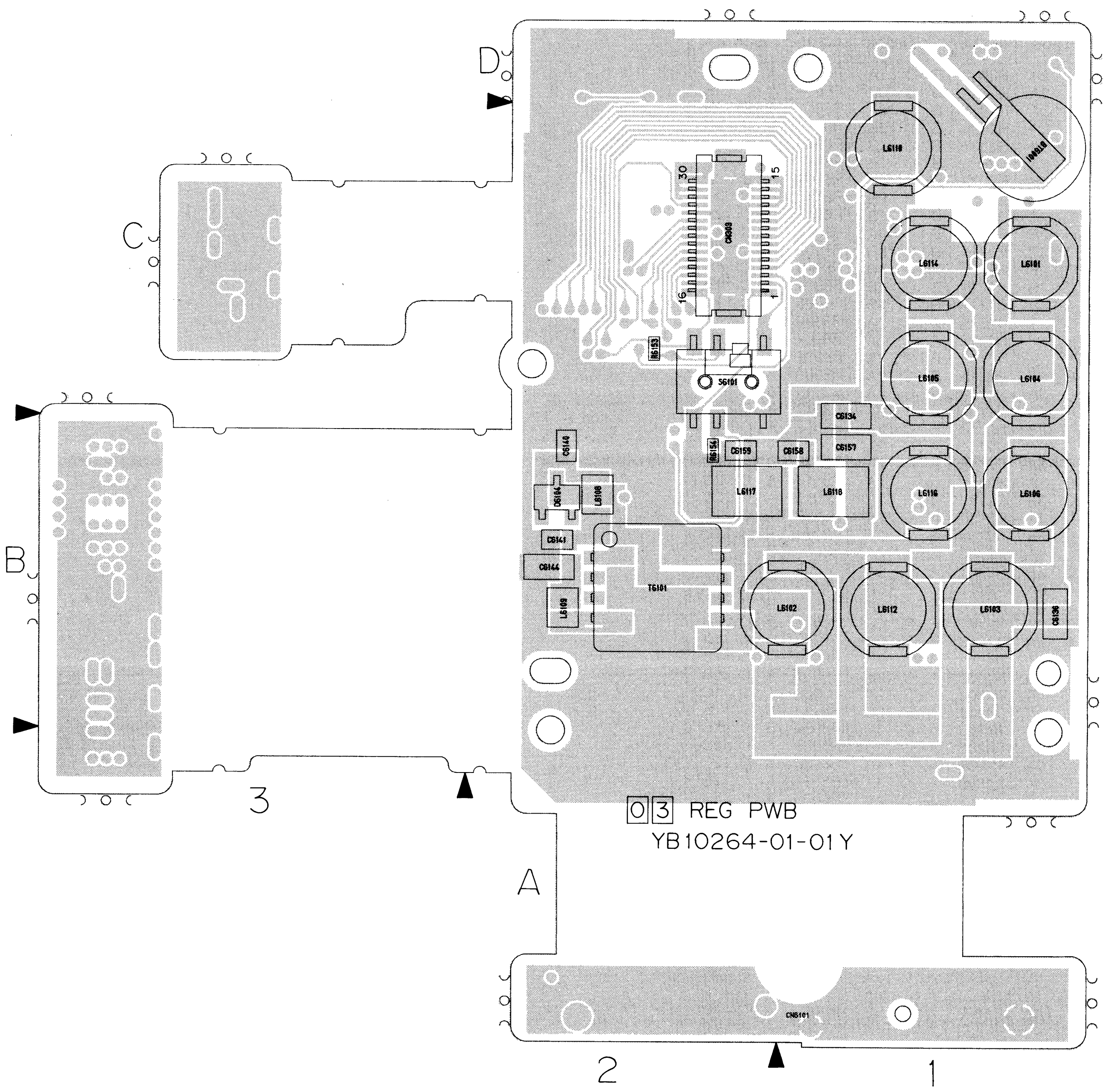


4.30 REGULATOR CIRCUIT BOARD

FOIL SIDE (B)


D
C
B
A
1
2
3
F6102
F
200 mA
500 mA
F6105
1.6A
F6103 F6101
IC6101
CN305
CN301
20
21
40
41
60
61
80
[0][3] REG PWB
YB10264-01-01Y

COMPONENT SIDE (A)

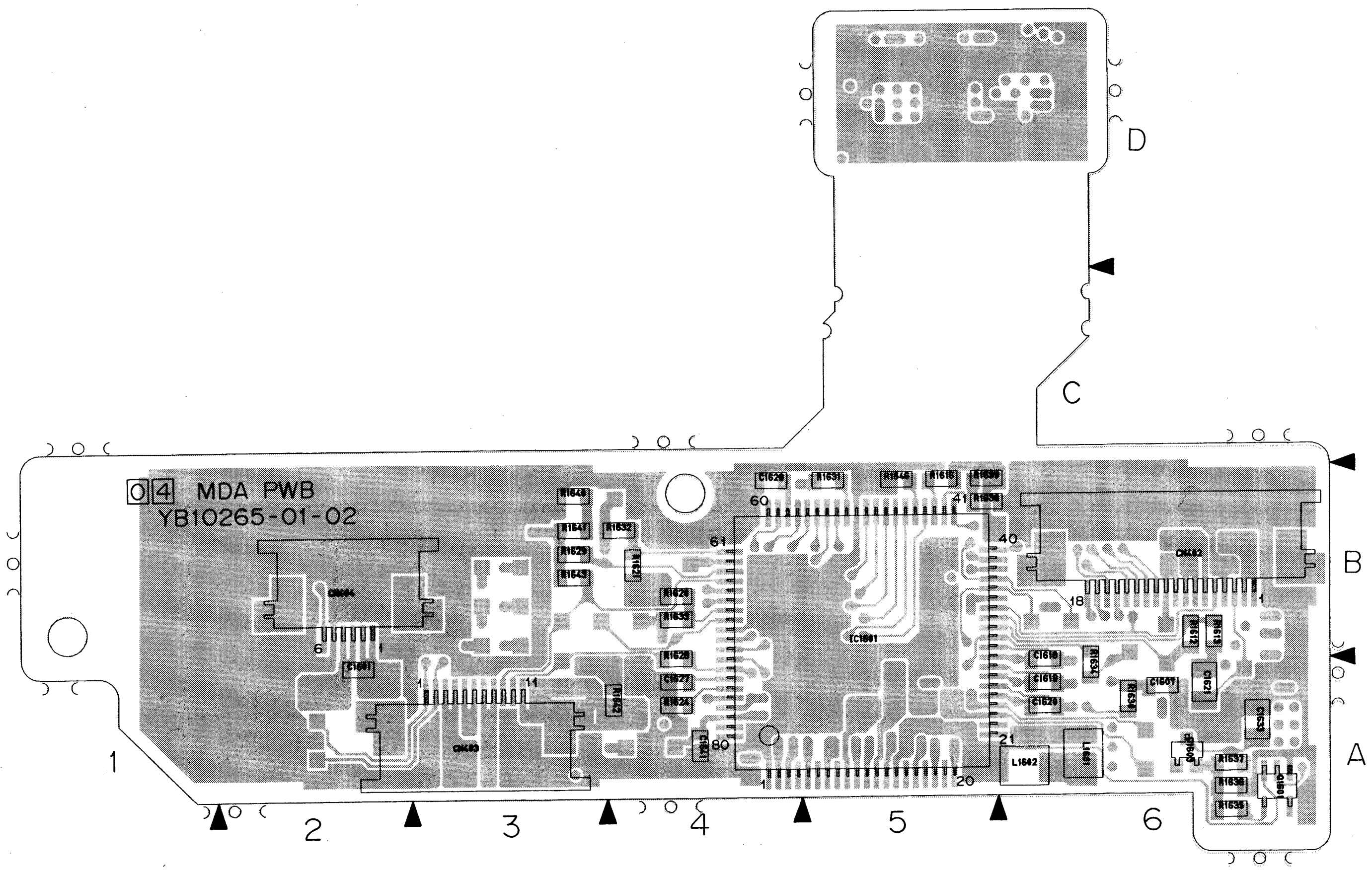

D
C
B
A
2
1
3
L6110
L6114
L6101
L6105
L6104
L6116
L6106
L6117
L6118
L6102
L6112
L6103
T6101
S6101
CN6101
[0][3] REG PWB
YB10264-01-01Y

COMPONENT PARTS LOCATION GUIDE (REGULATOR)

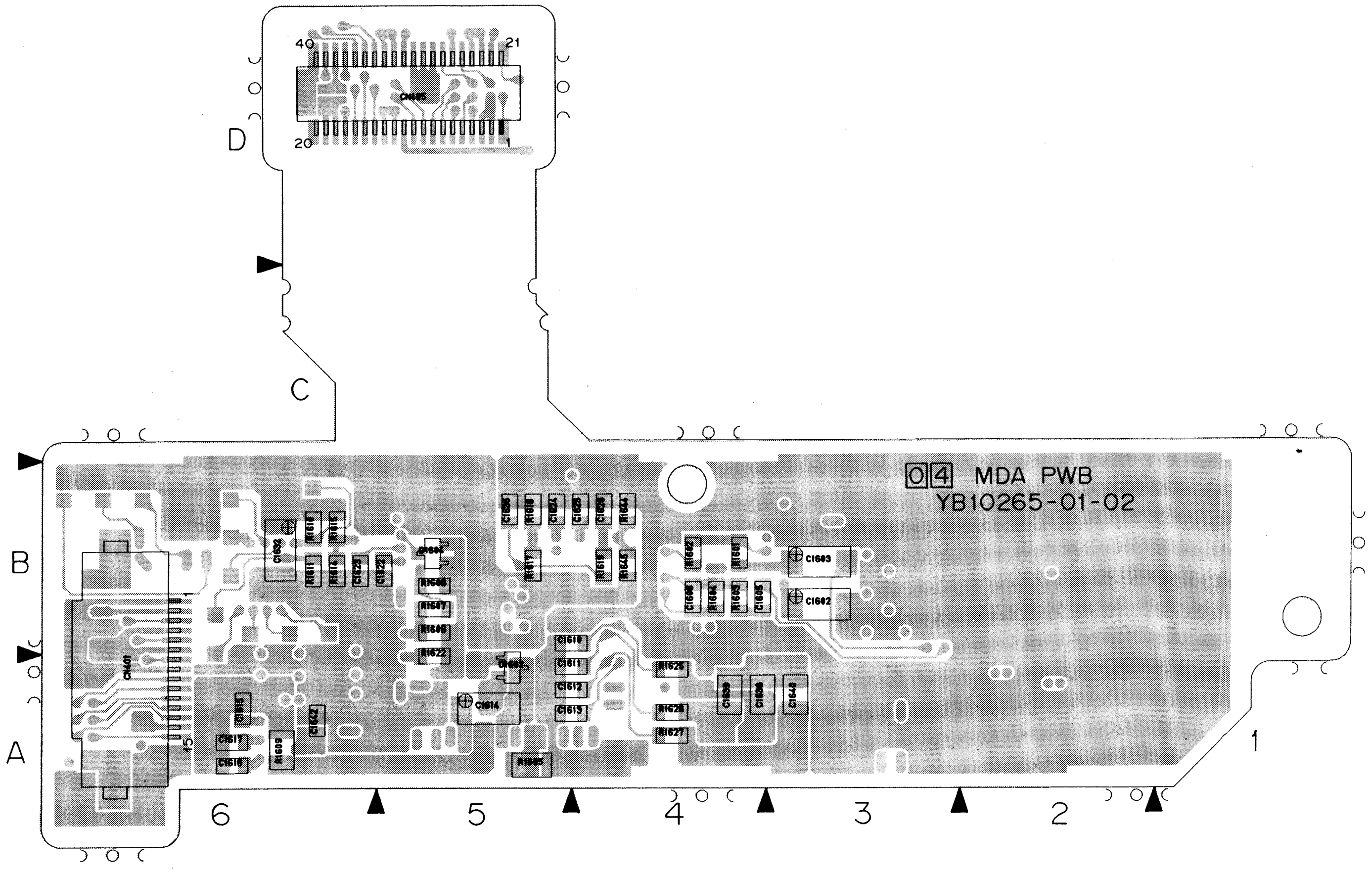
REF.No.	LOCATION		
CAPACITOR			
C6101	B	C	1C
C6102	B	C	1C
C6103	B	C	2C
C6104	B	C	1D
C6105	B	C	1D
C6106	B	C	1D
C6107	B	C	1D
C6108	B	C	1D
C6109	B	C	1D
C6110	B	C	1D
C6111	B	C	1D
C6112	B	C	2C
C6113	B	C	2C
C6114	B	C	1C
C6115	B	C	1C
C6116	B	C	1C
C6117	B	C	1C
C6118	B	C	1C
C6119	B	C	1C
C6120	B	C	1C
C6121	B	C	1C
C6122	B	C	1C
C6123	B	C	1C
C6124	B	C	1C
C6125	B	C	1C
C6126	B	C	2C
C6127	B	C	2C
C6128	B	C	1B
C6129	B	C	1A
C6130	B	C	1B
C6131	B	C	1B
C6132	B	C	1C
C6133	B	C	1B
C6134	A	C	1C
C6135	B	C	1B
C6136	A	C	1B
C6138	B	C	2A
C6139	B	C	2B
C6140	A	C	2B
C6141	A	C	2B
C6142	B	C	2A
C6143	B	C	2A
C6144	A	C	2B
C6145	B	C	1B
C6146	B	C	1B
C6147	B	C	2B
C6148	B	C	2B
C6150	B	C	1A
C6151	B	C	1B
C6153	B	C	1B
C6154	B	C	1C
C6156	B	C	2A
C6157	A	C	1B
C6158	A	C	1B
C6159	A	C	2B
C6162	B	C	2A
C6163	B	C	1C
C6164	B	C	1C
C6165	B	C	1C
C6166	B	C	1C
C6167	B	C	2C
CONNECTOR			
CN301	B	C	3A
CN302	B	C	3C
CN303	A	C	2C
CN304	B	C	2C
CN305	B	C	2B
CN6101	A	D	1A
DIODE			
D6101	B	C	1B
D6102	B	C	2B
D6103	B	C	1B
D6104	A	C	2B
D6105	B	C	2B
D6106	B	C	1B
D6107	B	C	1A
D6108	B	C	1B
D6109	B	C	1A
IC			
IC6101	B	C	1C
COIL			
L6101	A	C	1C
L6102	A	C	1B
L6103	A	C	1B
L6104	A	C	1C
L6105	A	C	1C
L6106	A	C	1B
L6108	A	C	2B
L6109	A	C	2B
L6110	A	C	1C
L6112	A	C	1B
L6114	A	C	1C
L6116	A	C	1B
L6117	A	C	2B
L6118	A	C	1B
TRANSISTOR			
Q6103	B	C	1B
Q6104	B	C	1B
Q6105	B	C	1B
Q6106	B	C	2B
Q6107	B	C	1B
Q6108	B	C	1B
Q6109	B	C	1B
Q6110	B	C	1B
Q6111	B	C	1C
Q6112	B	C	2B
Q6113	B	C	1B
RESISTOR			
R6101	B	C	1C
R6102	B	C	1C
R6103	B	C	1C
R6104	B	C	1D
R6105	B	C	1C
R6106	B	C	1D
R6107	B	C	1D
R6108	B	C	1C
R6109	B	C	1D
R6110	B	C	1C
R6111	B	C	1C
R6112	B	C	1C
R6114	B	C	1D
R6115	B	C	1D
R6117	B	C	1D
R6118	B	C	1D
R6119	B	C	1D
R6120	B	C	1D
R6121	B	C	1D
R6122	B	C	1D
R6123	B	C	2C
R6124	B	C	2C
R6125	B	C	2C
R6126	B	C	2C
R6127	B	C	2C
R6128	B	C	2C
R6129	B	C	1C
R6130	B	C	1C
R6131	B	C	1C
R6132	B	C	1C
R6133	B	C	1C
R6134	B	C	1C
R6135	B	C	1C
R6136	B	C	1C
R6137	B	C	1C
R6138	B	C	1C
R6139	B	C	1C
R6140	B	C	1C
R6141	B	C	1C
R6142	B	C	1C
R6143	B	C	2C
R6144	B	C	2C
R6145	B	C	2C
R6146	B	C	2C
R6147	B	C	1B
R6148	B	C	1B
R6151	B	C	1B
R6152	B	C	2B
R6153	A	C	2C
R6154	A	C	2B
R6155	B	C	1C
R6156	B	C	1B
R6157	B	C	1C
R6158	B	C	2B
R6159	B	C	1C
R6163	B	C	2C
R6164	B	C	2C
R6165	B	C	2C
R6166	B	C	2D
R6167	B	C	2C
R6168	B	C	2C
R6169	B	C	2C
R6170	B	C	1C
R6171	B	C	1D
OTHER			
BT6001	A	C	1C
F6101	B	C	1A
F6102	B	C	1C
F6103	B	C	1A
F6105	B	C	2B
S6101	A	C	2C
T6101	A	C	2B

4.31 MDA CIRCUIT BOARD

FOIL SIDE (B)


D
C
B
A
04 MDA PWB
YB10265-01-02
1
2
3
4
5
6
IC1601
CN402
CN403
CN404
L1602
60
41
61
40
80
21
1
20
18
11
6

COMPONENT SIDE (A)

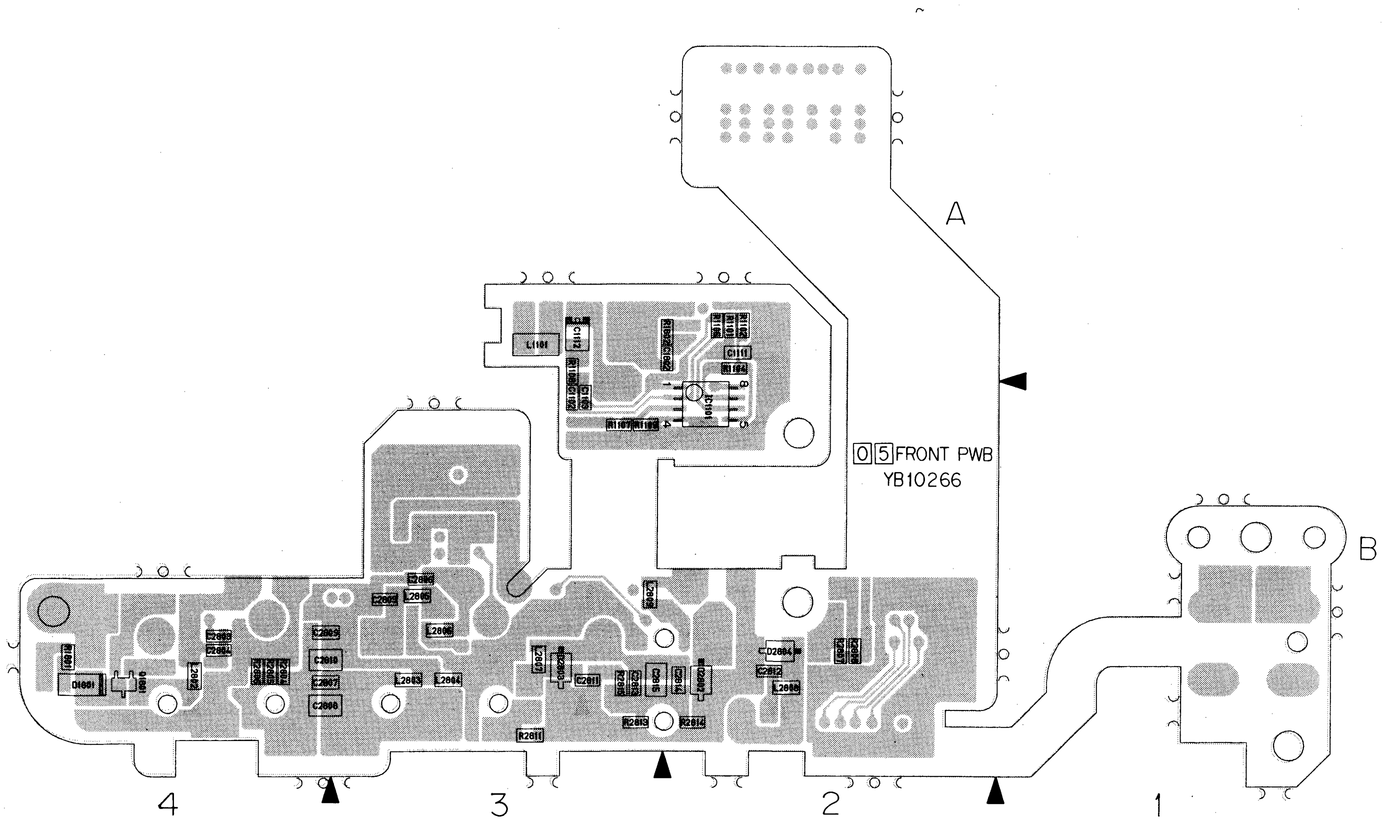

D
C
B
A
04 MDA PWB
YB10265-01-02
40
21
20
1
CN405
CN401
1
2
3
4
5
6

COMPONENT PARTS LOCATION GUIDE (MDA)

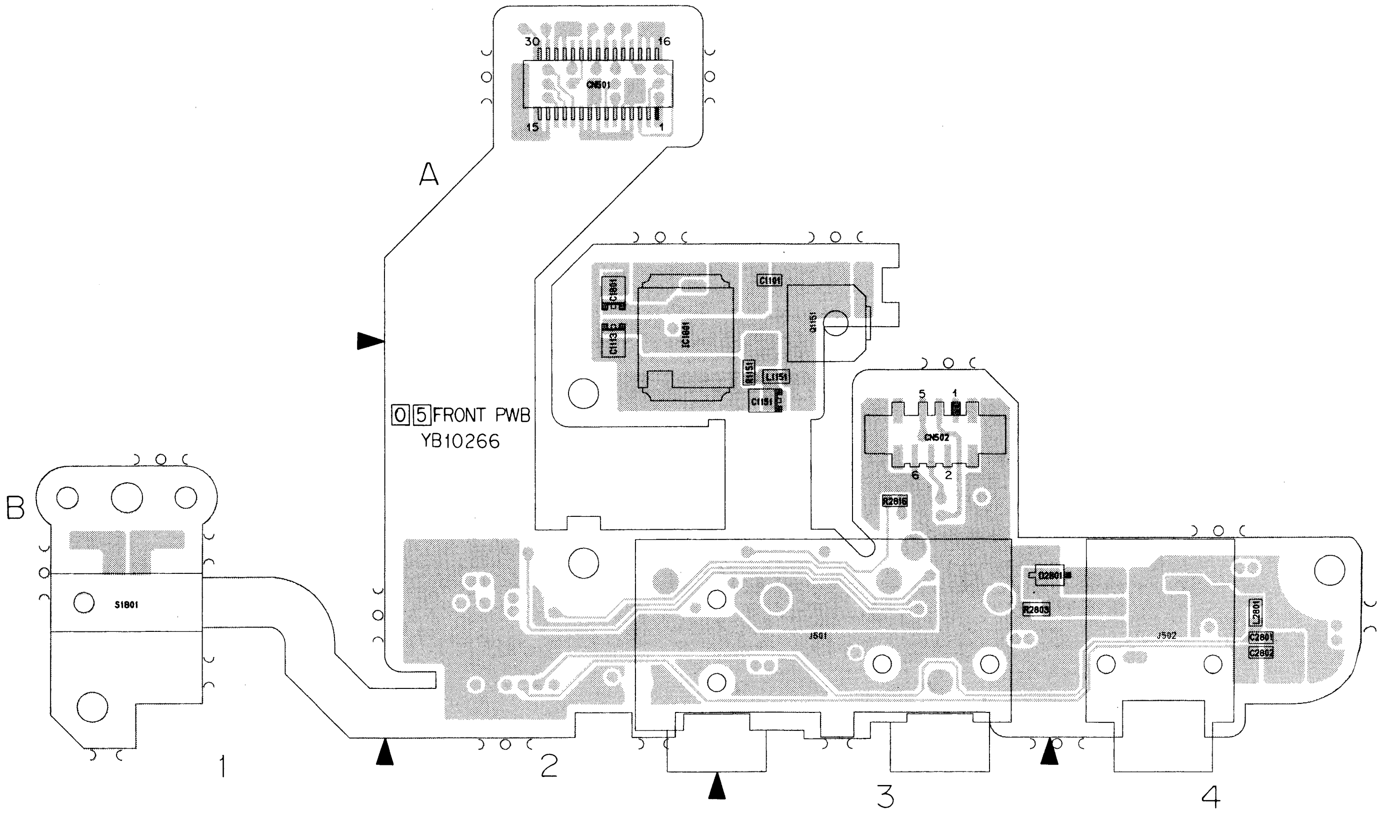
REF.No.	LOCATION		
CAPACITOR			
C1601	B	C	2A
C1602	A	C	3B
C1603	A	C	3B
C1605	A	C	4B
C1606	A	C	4B
C1607	B	C	6A
C1610	A	C	5B
C1611	A	C	5A
C1612	A	C	5A
C1613	A	C	5A
C1614	A	C	5A
C1615	A	C	6A
C1616	A	C	6A
C1617	A	C	6A
C1618	B	C	6A
C1619	B	C	6A
C1620	B	C	6A
C1621	B	C	6A
C1622	A	C	5B
C1623	A	C	6B
C1624	A	C	5B
C1625	A	C	4B
C1626	A	C	4B
C1627	B	C	4A
C1628	B	C	4B
C1632	A	C	6B
C1633	B	C	6A
C1635	A	C	5B
C1638	A	C	4A
C1639	A	C	4A
C1640	A	C	3A
C1641	B	C	4A
C1642	A	C	6A
CONNECTOR			
CN401	A	C	6B
CN402	B	C	6B
CN403	B	C	3A
CN404	B	C	2B
CN405	A	C	5D
DIODE			
D1602	A	C	5A
D1603	B	C	6A
D1604	A	C	5B
IC			
IC1601	B	C	5B
COIL			
L1601	B	C	6A
L1602	B	C	6A
TRANSISTOR			
Q1601	B	C	6A
RESISTOR			
R1601	A	C	4B
R1602	A	C	4B
R1603	A	C	4B
R1604	A	C	4B
R1605	A	C	5A
R1606	A	C	5B
R1607	A	C	5B
R1608	A	C	5B
R1609	A	C	6A
R1610	A	C	6B
R1611	A	C	6B
R1612	B	C	6B
R1613	B	C	6B
R1614	A	C	6B
R1615	A	C	6B
R1616	B	C	5B
R1617	A	C	5B
R1618	A	C	5B
R1619	A	C	4B
R1620	B	C	4B
R1621	B	C	4B
R1622	A	C	5A
R1624	B	C	4A
R1625	A	C	4A
R1626	A	C	4A
R1627	A	C	4A
R1628	B	C	4B
R1629	B	C	3B
R1630	B	C	6A
R1631	B	C	5B
R1632	B	C	4B
R1633	B	C	4B
R1634	B	C	6A
R1635	B	C	6A
R1636	B	C	6A
R1637	B	C	6A
R1638	B	C	5B
R1639	B	C	5B
R1640	B	C	3B
R1641	B	C	3B
R1642	B	C	4A
R1643	B	C	3B
R1644	A	C	4B
R1645	A	C	4B
R1646	B	C	5B

4.32 FRONT CIRCUIT BOARD

FOIL SIDE (B)



COMPONENT SIDE (A)

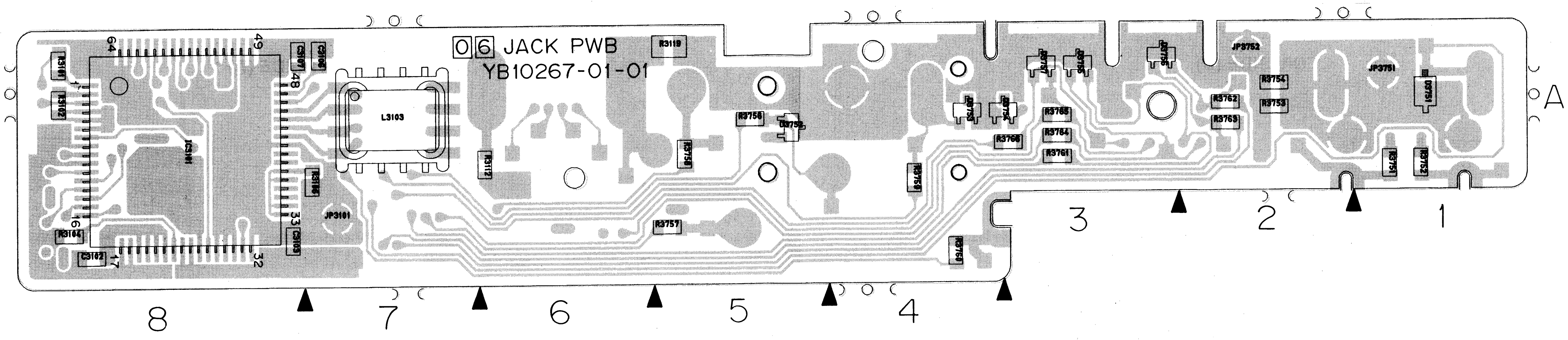


COMPONENT PARTS LOCATION GUIDE (FRONT)

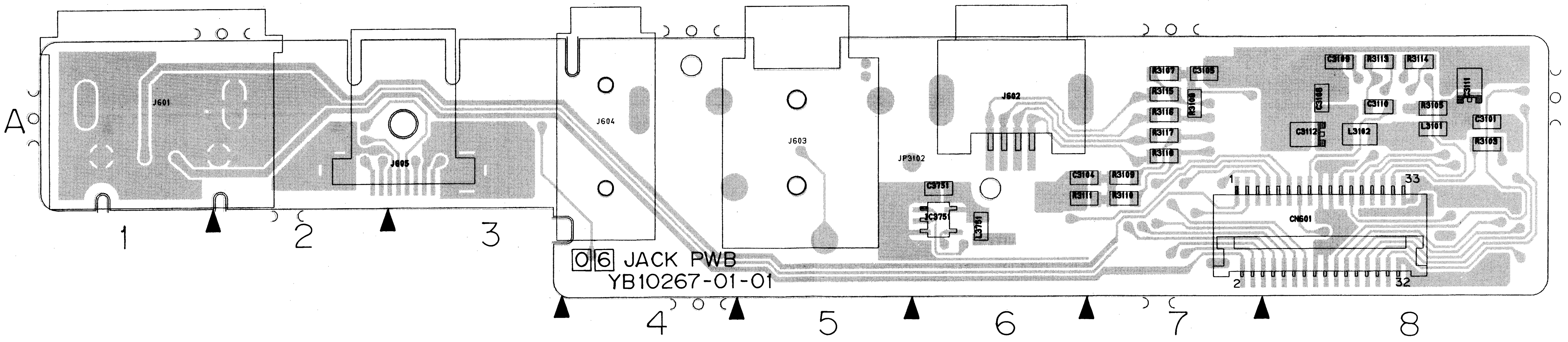
REF.No.	LOCATION		
CAPACITOR			
C1101	A	C	3A
C1102	B	C	3B
C1103	B	C	3B
C1111	B	C	2A
C1112	B	C	3A
C1113	A	C	2B
C1151	A	C	3B
C1801	A	C	2A
C1802	B	C	2A
C2801	A	C	4B
C2802	A	C	4B
C2803	B	C	4B
C2804	B	C	4B
C2805	B	C	3B
C2806	B	C	3B
C2807	B	C	4B
C2808	B	C	4B
C2809	B	C	4B
C2810	B	C	4B
C2811	B	C	3B
C2812	B	C	2B
C2813	B	C	3B
C2814	B	C	2B
C2815	B	C	3B
CONNECTOR			
CN501	A	C	2A
CN502	A	C	3B
DIODE			
D1801	B	C	4B
D2801	A	C	3B
D2802	B	C	2B
D2803	B	C	3B
D2804	B	C	2B
IC			
IC1101	B	C	2B
IC1801	A	C	2A
COIL			
L1101	B	C	3A
L1151	A	C	3B
L2801	A	C	4B
L2802	B	C	4B
L2803	B	C	3B
L2804	B	C	3B
L2805	B	C	3B
L2806	B	C	3B
L2807	B	C	3B
L2808	B	C	2B
L2809	B	C	3B
TRANSISTOR			
Q1151	A	D	3A
Q1801	B	C	4B
RESISTOR			
R1101	B	C	2A
R1102	B	C	2A
R1104	B	C	2A
R1106	B	C	2A
R1107	B	C	3B
R1108	B	C	3A
R1109	B	C	3B
R1151	A	C	3B
R1801	B	C	4B
R1802	B	C	2A
R2803	A	C	3B
R2804	B	C	4B
R2805	B	C	4B
R2806	B	C	4B
R2807	B	C	2B
R2808	B	C	2B
R2811	B	C	3B
R2813	B	C	3B
R2814	B	C	2B
R2815	B	C	3B
R2816	A	C	3B
OTHER			
J501	A	D	2B
J502	A	D	4B
S1801	A	C	1B

4.33 JACK CIRCUIT BOARD

FOIL SIDE (B)


06 JACK PWB
YB10267-01-01
IC3101
L3103
R3101
R3102
R3104
C3102
C3107
C3106
C3103
R3106
R3112
JP3101
R3119
R3756
D3757
R3758
R3757
R3759
R3760
D3753
D3754
D3755
D3756
R3766
R3765
R3764
R3761
D3752
R3762
R3763
JP3752
R3754
R3753
JP3751
D3751
R3751
R3752
64
49
48
33
32
17
16
1
A
1
2
3
4
5
6
7
8

COMPONENT SIDE (A)

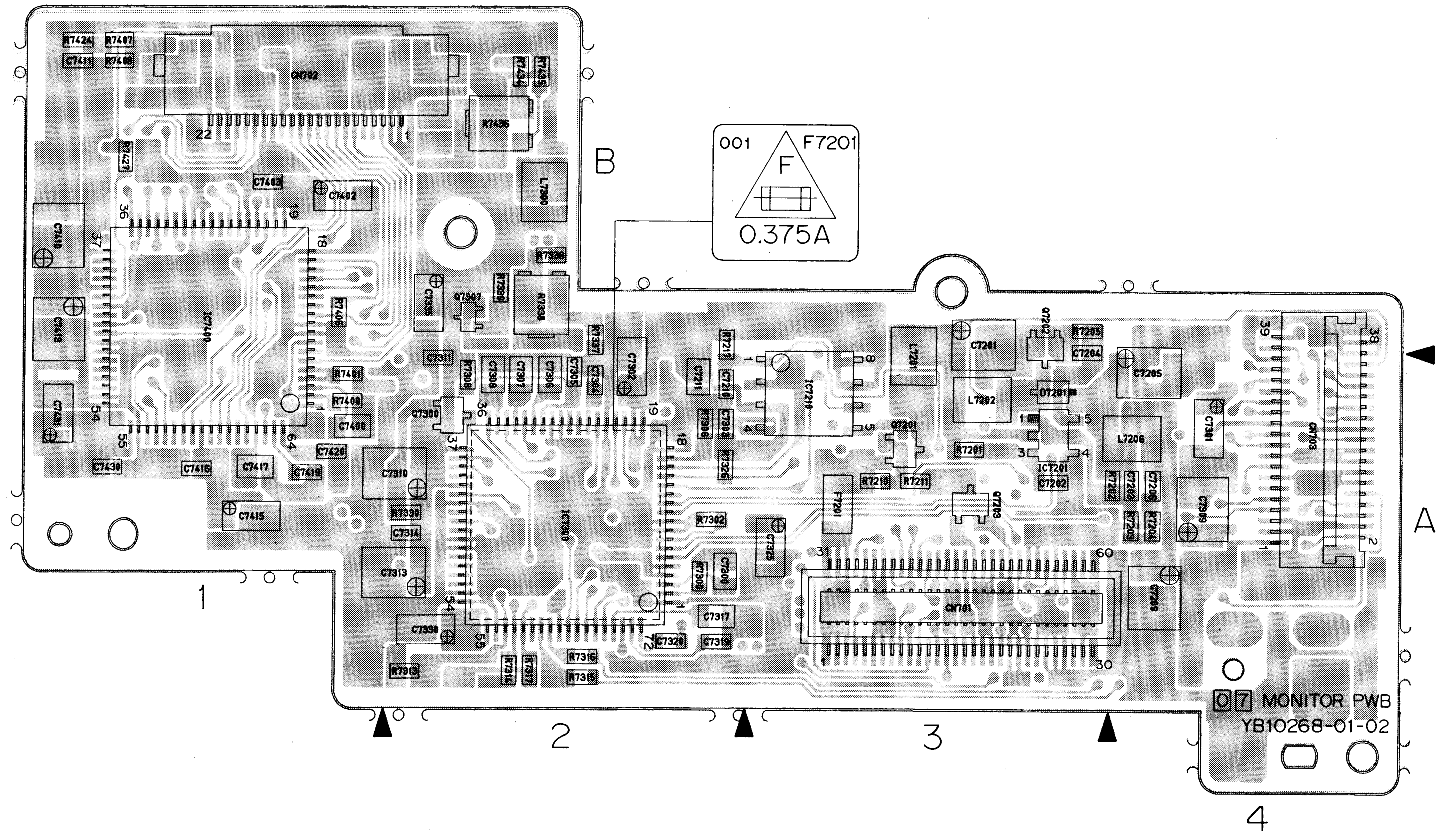

A
J601
J605
J604
J603
J602
JP3102
C3751
IC3751
L3751
06 JACK PWB
YB10267-01-01
R3107
C3105
R3115
R3116
R3117
R3118
C3104
R3109
R3111
R3110
C3108
C3109
R3113
R3114
C3110
R3105
C3111
C3112
L3102
L3101
C3101
R3103
CN601
1
33
2
32
1
2
3
4
5
6
7
8

COMPONENT PARTS LOCATION GUIDE (JACK)

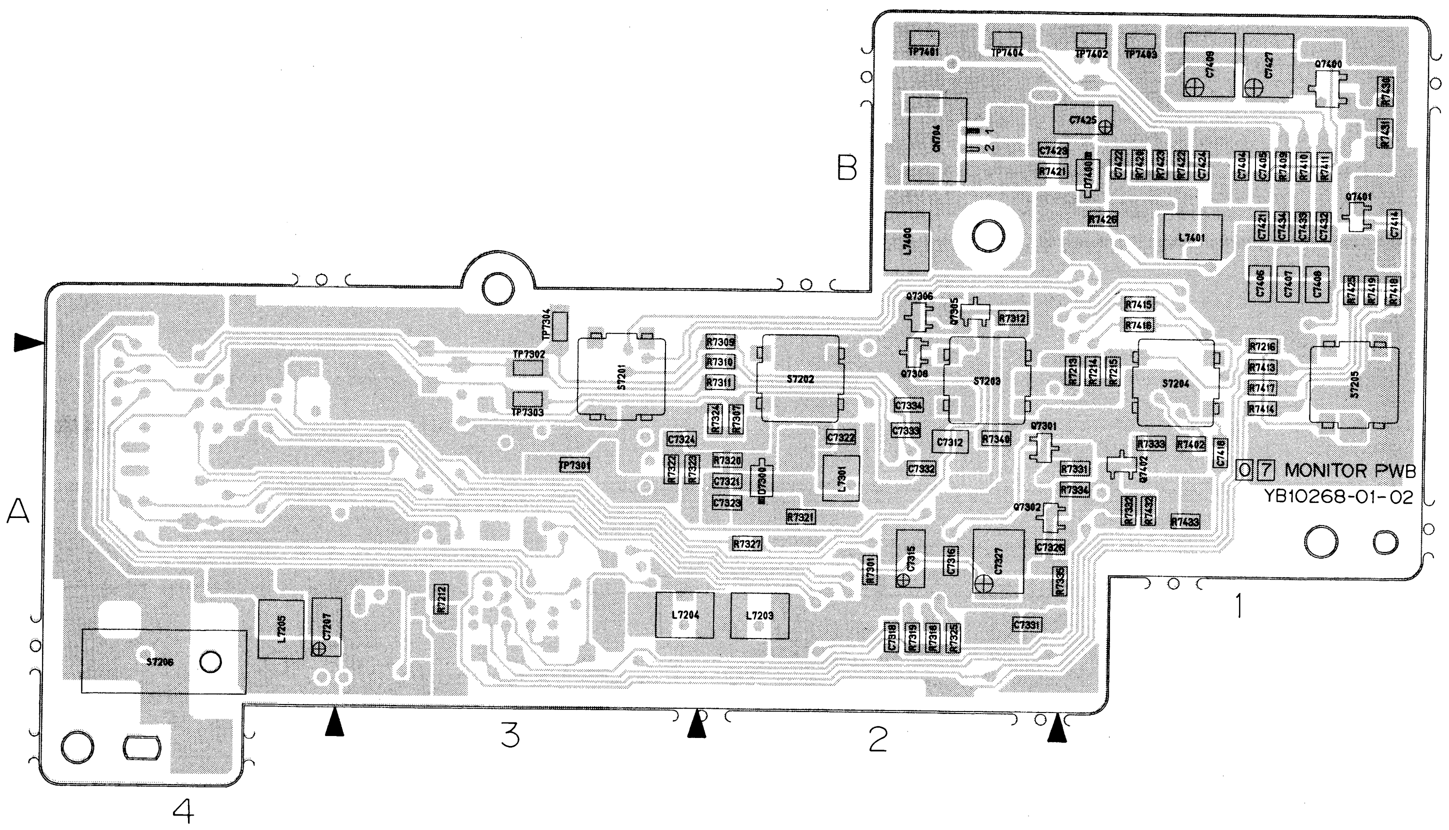
REF.No.	LOCATION		
CAPACITOR			
C3101	A	C	8A
C3102	B	C	8A
C3103	B	C	8B
C3104	A	C	7A
C3105	A	C	7A
C3106	B	C	7A
C3107	B	C	8A
C3108	A	C	8A
C3109	A	C	8A
C3110	A	C	8A
C3111	A	C	8A
C3112	A	C	8A
C3751	A	C	6A
CONNECTOR			
CN601	A	C	7A
DIODE			
D3751	B	C	1A
D3752	B	C	5A
D3753	B	C	4A
D3754	B	C	4A
D3755	B	C	3A
D3756	B	C	3A
D3757	B	C	3A
IC			
IC3101	B	C	8A
IC3751	A	C	6A
COIL			
L3101	A	C	8A
L3102	A	C	8A
L3103	B	C	7A
L3751	A	C	6A
RESISTOR			
R3101	B	C	8A
R3102	B	C	8A
R3103	A	C	8A
R3104	B	C	8A
R3105	A	C	8A
R3106	B	C	8A
R3107	A	C	7A
R3108	A	C	7A
R3109	A	C	7A
R3110	A	C	7A
R3111	A	C	7A
R3112	B	C	7A
R3113	A	C	8A
R3114	A	C	8A
R3115	A	C	7A
R3116	A	C	7A
R3117	A	C	7A
R3118	A	C	7A
R3119	B	C	5A
R3751	B	C	1A
R3752	B	C	1A
R3753	B	C	2A
R3754	B	C	2A
R3756	B	C	5A
R3757	B	C	5A
R3758	B	C	5A
R3759	B	C	4A
R3760	B	C	4A
R3761	B	C	3A
R3762	B	C	2A
R3763	B	C	2A
R3764	B	C	3A
R3765	B	C	3A
R3766	B	C	3A
OTHER			
J601	A	D	1A
J602	A	C	6A
J603	A	D	5A
J604	A	D	4A
J605	A	C	3A
JP3101	B	C	7A
JP3102	A	D	6A
JP3751	B	C	1A
JP3752	B	C	2A

4.34 MONITOR CIRCUIT BOARD

FOIL SIDE (B)



COMPONENT SIDE (A)

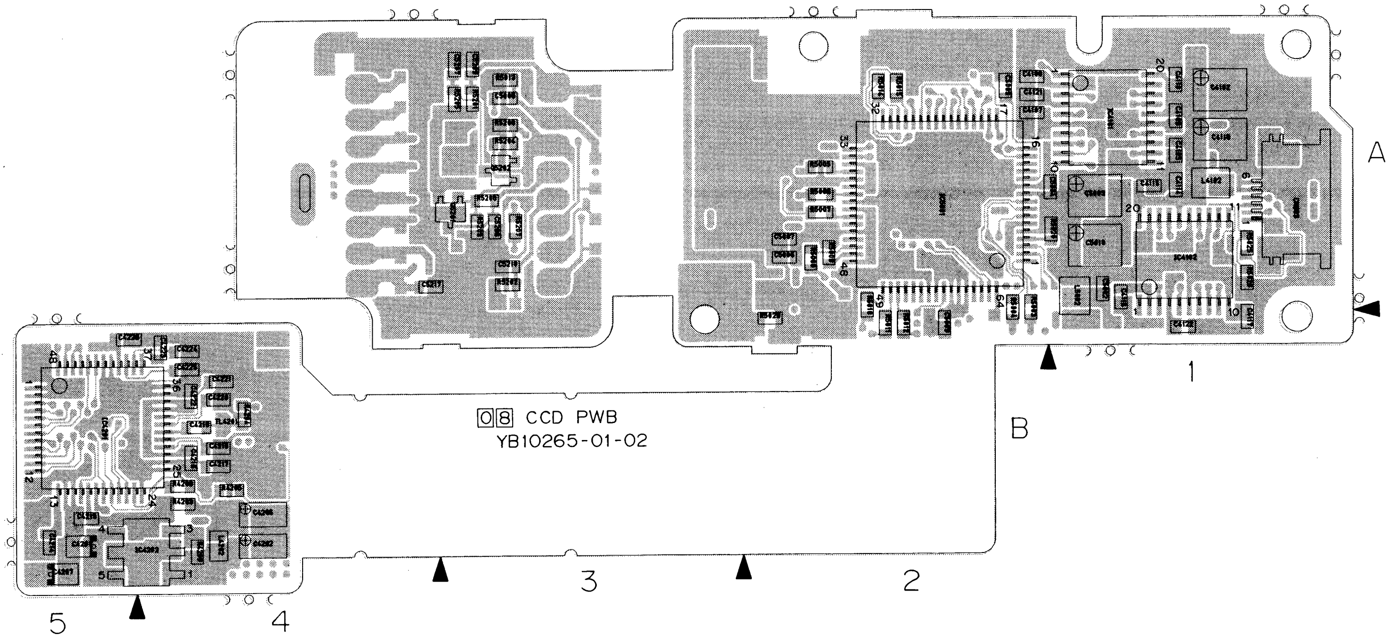


COMPONENT PARTS LOCATION GUIDE (MONITOR)

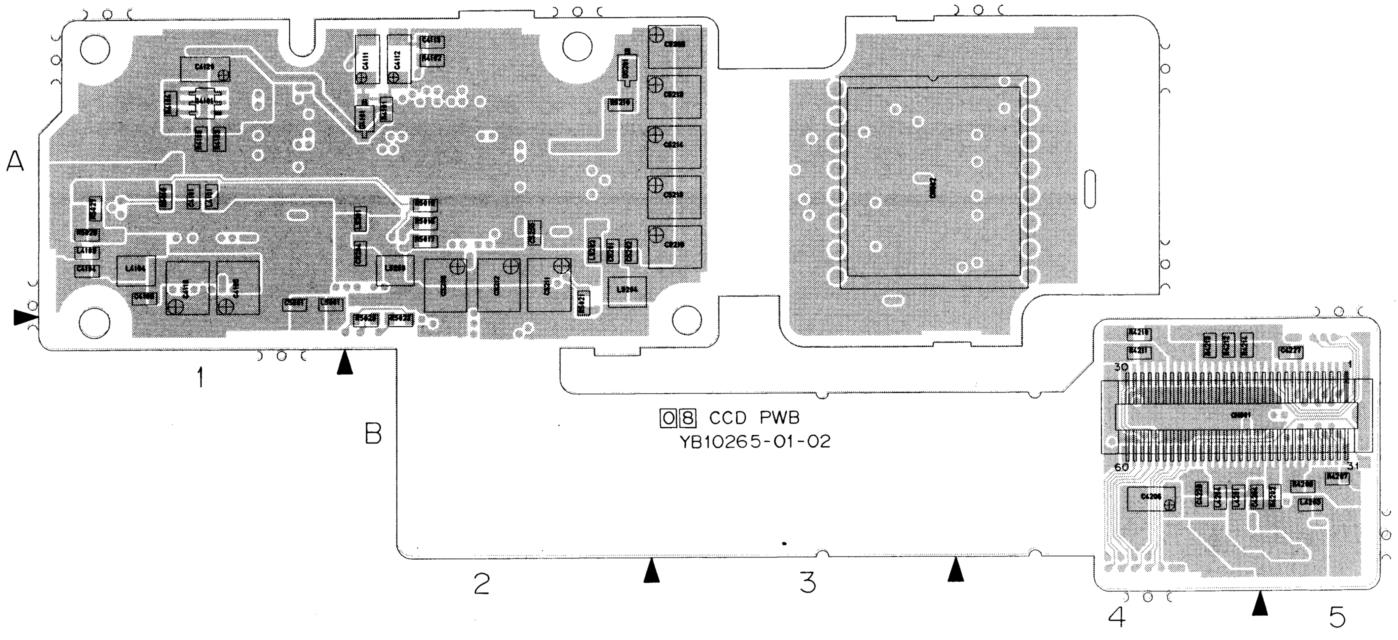
REF.No.	LOCATION		
CAPACITOR			
C7201	B	C	3B
C7202	B	C	3A
C7203	B	C	4A
C7204	B	C	3A
C7205	B	C	4A
C7206	B	C	4A
C7207	A	C	4A
C7209	B	C	4A
C7210	B	C	2A
C7211	B	C	2A
C7300	B	C	2A
C7301	B	C	4A
C7302	B	C	2A
C7303	B	C	2A
C7304	B	C	2A
C7305	B	C	2A
C7306	B	C	2A
C7307	B	C	2A
C7308	B	C	2A
C7309	B	C	4A
C7310	B	C	2A
C7311	B	C	2A
C7312	A	C	2A
C7313	B	C	2A
C7314	B	C	2A
C7315	A	C	2A
C7316	A	C	2A
C7317	B	C	2A
C7318	A	C	2A
C7319	B	C	2A
C7320	B	C	2A
C7321	A	C	2A
C7322	A	C	2A
C7323	A	C	2A
C7324	A	C	3A
C7325	B	C	3A
C7326	A	C	2A
C7327	A	C	2A
C7330	B	C	2A
C7331	A	C	2A
C7332	A	C	2A
C7333	A	C	2A
C7334	A	C	2A
C7335	B	C	2B
C7400	B	C	1A
C7402	B	C	1B
C7403	B	C	1B
C7404	A	C	1B
C7405	A	C	1B
C7406	A	C	1B
C7407	A	C	1B
C7408	A	C	1B
C7409	A	C	1B
C7410	B	C	1B
C7411	B	C	1B
C7413	B	C	1B
C7414	A	C	1B
C7415	B	C	1A
C7416	B	C	1A
C7417	B	C	1A
C7418	A	C	1A
C7419	B	C	1A
C7420	B	C	1A
C7421	A	C	1B
C7422	A	C	1B
C7423	A	C	2B
C7424	A	C	1B
C7425	A	C	1B
C7427	A	C	1B
C7430	B	C	1A
C7431	B	C	1A
C7432	A	C	1B
C7433	A	C	1B
C7434	A	C	1B
CONNECTOR			
CN701	B	C	3A
CN702	B	C	2B
CN702	B	C	3B
CN703	B	C	4A
CN704	A	C	2B
DIODE			
D7201	B	C	3A
D7300	A	C	2A
D7400	A	C	1B
IC			
IC7201	B	C	3A
IC7210	B	C	3A
IC7300	B	C	2A
IC7400	B	C	1B
COIL			
L7201	B	C	3A
L7202	B	C	3A
L7203	A	C	2A
L7204	A	C	3A
L7205	A	C	4A
L7206	B	C	4A
L7300	B	C	2B
L7301	A	C	2A
L7400	A	C	2B
L7401	A	C	1B
TRANSISTOR			
Q7201	B	C	3A
Q7202	B	C	3A
Q7203	B	C	3A
Q7300	B	C	2A
Q7301	A	C	2A
Q7302	A	C	2A
Q7305	A	C	2B
Q7306	A	C	2B
Q7307	B	C	2B
Q7308	A	C	2A
Q7400	A	C	1B
Q7401	A	C	1B
Q7402	A	C	1A
RESISTOR			
R7201	B	C	3A
R7202	B	C	4A
R7203	B	C	4A
R7204	B	C	4A
R7205	B	C	3B
R7210	B	C	3A
R7211	B	C	3A
R7212	A	C	3A
R7213	A	C	1A
R7214	A	C	1A
R7215	A	C	1A
R7216	A	C	1B
R7217	B	C	2B
R7300	B	C	2A
R7301	A	C	2A
R7302	B	C	2A
R7306	B	C	2A
R7307	A	C	2A
R7308	B	C	2A
R7309	A	C	2B
R7310	A	C	2A
R7311	A	C	2A
R7312	A	C	2B
R7313	B	C	2A
R7314	B	C	2A
R7315	B	C	2A
R7316	B	C	2A
R7317	B	C	2A
R7318	A	C	2A
R7319	A	C	2A
R7320	A	C	2A
R7321	A	C	2A
R7322	A	C	3A
R7323	A	C	3A
R7324	A	C	2A
R7325	A	C	2A
R7326	B	C	2A
R7327	A	C	2A
R7330	B	C	2A
R7331	A	C	1A
R7332	A	C	1A
R7333	A	C	1A
R7334	A	C	1A
R7335	A	C	1A
R7336	B	C	2B
R7337	B	C	2B
R7338	B	C	2B
R7339	B	C	2B
R7340	A	C	2A
R7400	B	C	1A
R7401	B	C	1A
R7402	A	C	1A
R7406	B	C	1B
R7407	B	C	1B
R7408	B	C	1B
R7409	A	C	1B
R7410	A	C	1B
R7411	A	C	1B
R7413	A	C	1A
R7414	A	C	1A
R7415	A	C	1B
R7416	A	C	1B
R7417	A	C	1A
R7418	A	C	1B
R7419	A	C	1B
R7420	A	C	1B
R7421	A	C	2B
R7422	A	C	1B
R7423	A	C	1B
R7424	B	C	1B
R7425	A	C	1B
R7426	A	C	1B
R7427	B	C	1B
R7430	A	C	1B
R7431	A	C	1B
R7432	A	C	1A
R7433	A	C	1A
R7434	B	C	2B
R7435	B	C	2B
R7436	B	C	2B
TEST POINT			
TP7301	A	C	3A
TP7302	A	C	3A
TP7303	A	C	3A
TP7304	A	C	3B
TP7401	A	C	2B
TP7402	A	C	1B
TP7403	A	C	1B
TP7404	A	C	2B
OTHER			
F7201	B	C	3A
S7201	A	C	3A
S7202	A	C	2A
S7203	A	C	2A
S7204	A	C	1A
S7205	A	C	1A
S7206	A	C	4A

4.35 CCD CIRCUIT BOARD

FOIL SIDE (B)



COMPONENT SIDE (A)

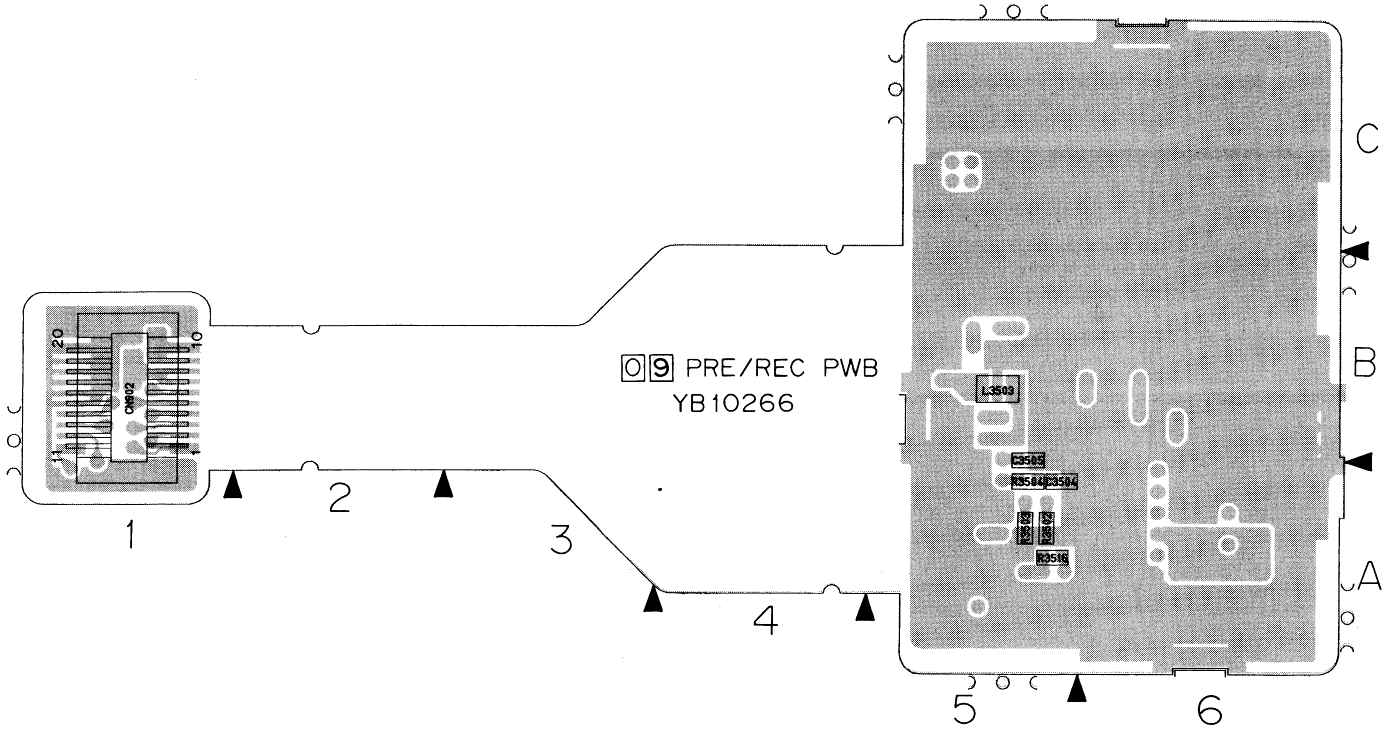


COMPONENT PARTS LOCATION GUIDE (CCD)

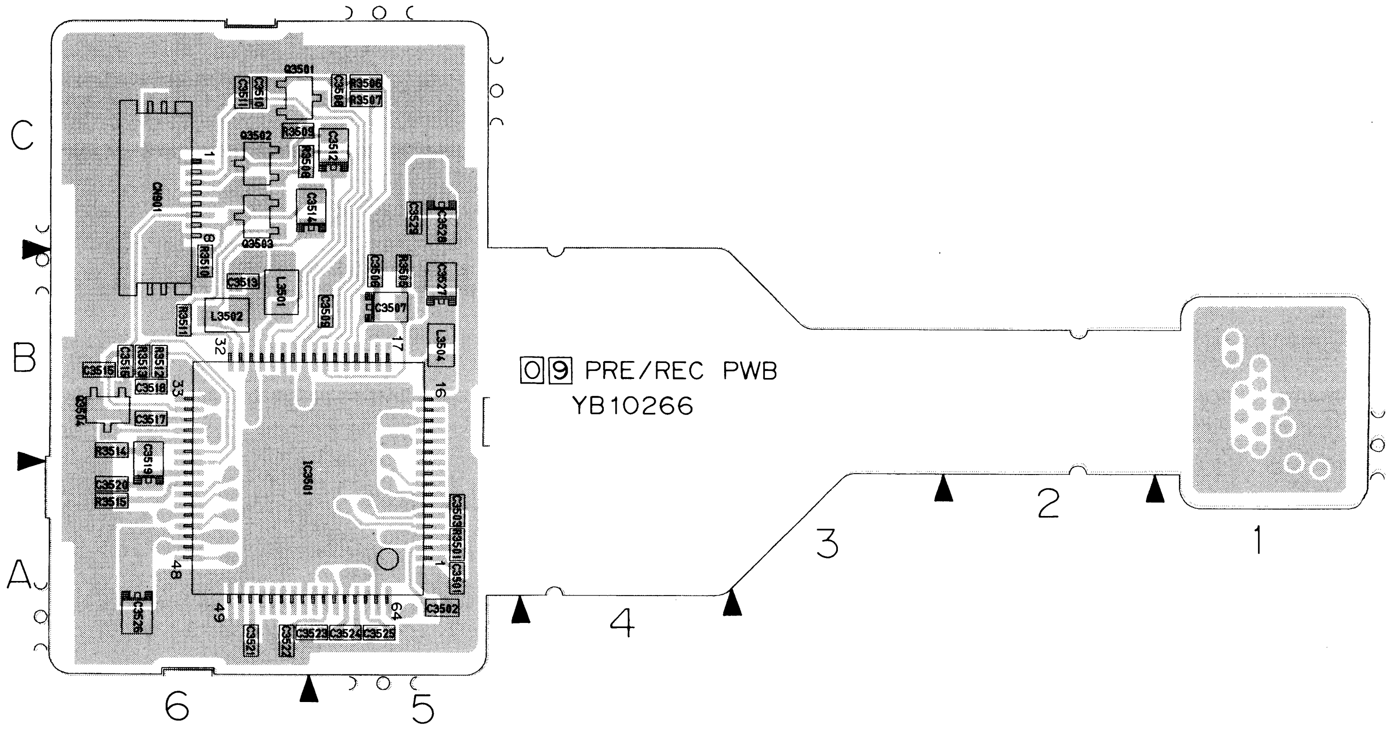
REF.No.	LOCATION		
CAPACITOR			
C4101	A	C	1A
C4102	B	C	1A
C4103	B	C	1A
C4104	A	C	1A
C4105	A	C	1A
C4106	A	C	1A
C4107	B	C	2A
C4108	B	C	2A
C4109	B	C	1A
C4110	B	C	1A
C4111	A	C	2A
C4112	A	C	2A
C4113	A	C	2A
C4114	B	C	1A
C4115	B	C	1A
C4116	B	C	1A
C4117	B	C	1B
C4118	B	C	1A
C4119	A	C	1A
C4120	A	C	1A
C4121	B	C	2A
C4122	B	C	1B
C4201	B	C	5B
C4202	B	C	4B
C4204	A	C	5B
C4205	B	C	4B
C4206	A	C	4B
C4207	B	C	5B
C4214	B	C	5B
C4215	B	C	5B
C4216	B	C	4B
C4217	B	C	4B
C4218	B	C	4B
C4219	B	C	4B
C4220	B	C	4B
C4221	B	C	4B
C4222	B	C	4B
C4223	B	C	4B
C4224	B	C	4B
C4225	B	C	4B
C4226	B	C	5B
C4227	A	C	5B
C4228	A	C	4B
C5001	A	C	1A
C5002	B	C	1A
C5003	B	C	1A
C5004	B	C	1A
C5005	B	C	2A
C5006	B	C	2A
C5007	B	C	2A
C5008	B	C	3A
C5009	B	C	2B
C5010	B	C	1A
C5201	A	C	2A
C5202	A	C	2A
C5203	A	C	3A
C5204	A	C	2A
C5205	A	C	2A
C5206	A	C	2A
C5207	B	C	3A
C5208	B	C	3A
C5209	B	C	3A
C5210	B	C	3A
C5211	A	C	2A
C5212	A	C	2A
C5213	A	C	3A
C5214	A	C	3A
C5215	A	C	3A
C5216	A	C	3A
C5217	B	C	4A
CONNECTOR			
CN801	A	C	5B
CN802	A	D	3A
CN803	B	C	1A
DIODE			
D4101	A	C	2A
D5201	A	C	2A
IC			
IC4101	B	C	1A
IC4102	B	C	1A
IC4201	B	C	5B
IC4202	B	C	4B
IC5001	B	C	2A
COIL			
L4101	A	C	1A
L4102	B	C	1A
L4103	A	C	1A
L4104	A	C	1A
L4201	A	C	4B
L4202	B	C	4B
L4203	A	C	5B
L4204	A	C	4B
L5001	A	C	1A
L5002	B	C	1A
L5201	A	C	2A
L5202	A	C	2A
L5203	A	C	2A
L5204	A	C	2A
TRANSISTOR			
Q4101	A	C	1A
Q5201	B	C	3A
Q5202	B	C	3A
RESISTOR			
R4101	A	C	2A
R4102	A	C	2A
R4103	A	C	1A
R4104	A	C	1A
R4105	A	C	1A
R4202	A	C	5B
R4203	B	C	4B
R4204	B	C	4B
R4205	B	C	4B
R4206	A	C	5B
R4207	A	C	5B
R4208	B	C	4B
R4209	B	C	4B
R4210	A	C	4B
R4211	A	C	4B
R4212	A	C	4B
R4213	A	C	4B
R4214	A	C	4B
R5003	B	C	2A
R5004	B	C	2A
R5005	B	C	2A
R5006	B	C	2A
R5007	B	C	2A
R5008	B	C	2A
R5009	B	C	2A
R5010	B	C	2A
R5011	B	C	2B
R5012	B	C	2B
R5013	B	C	3A
R5014	B	C	2A
R5015	B	C	2A
R5016	A	C	1A
R5017	A	C	2A
R5018	A	C	2A
R5019	A	C	2A
R5020	B	C	1A
R5021	A	C	2A
R5022	A	C	2B
R5023	A	C	2B
R5025	B	C	1A
R5026	B	C	1A
R5027	A	C	1A
R5028	A	C	1A
R5029	B	C	2B
R5201	B	C	3A
R5202	B	C	3A
R5203	B	C	3A
R5204	B	C	3A
R5205	B	C	3A
R5206	B	C	3A
R5207	B	C	3A
R5208	B	C	3A
R5210	A	C	2A

4.36 PRE/REC CIRCUIT BOARD

FOIL SIDE (B)


09 PRE/REC PWB
YB10266
CN902
20
10
11
L3503
C3505
R3504
C3504
R3503
R3502
R3516
A
B
C
1
2
3
4
5
6

COMPONENT SIDE (A)

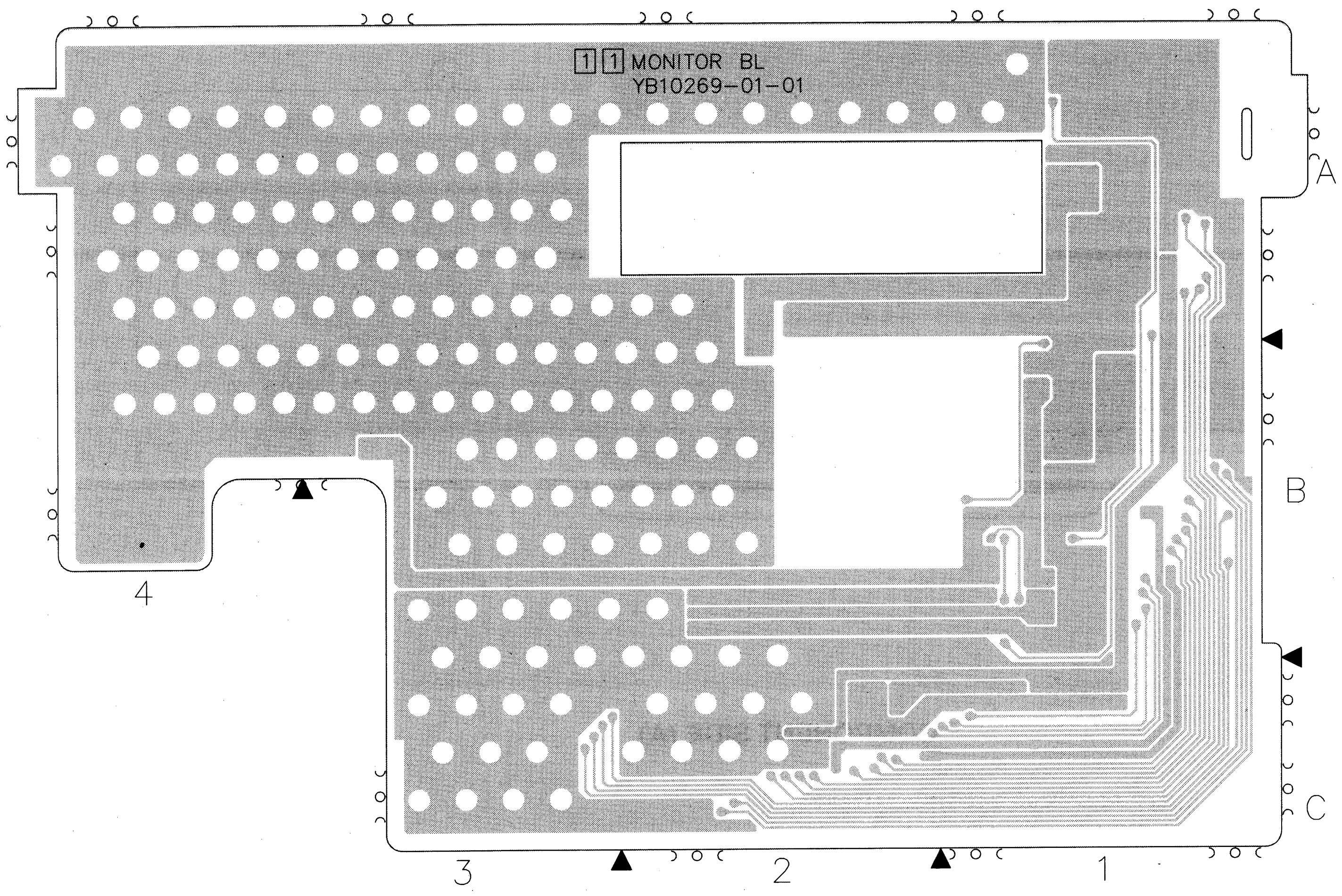

09 PRE/REC PWB
YB10266
CN901
Q3501
Q3502
Q3503
Q3504
IC3501
L3501
L3502
L3504
C3507
C3502
A
B
C
1
2
3
4
5
6

COMPONENT PARTS LOCATION GUIDE (PRE/REC)

REF.No.	LOCATION		
CAPACITOR			
C3501	A	C	5A
C3502	A	C	5A
C3503	A	C	5A
C3504	B	C	5A
C3505	B	C	5A
C3506	A	C	5B
C3507	A	C	5B
C3508	A	C	5C
C3509	A	C	5B
C3510	A	C	6C
C3511	A	C	6C
C3512	A	C	5C
C3513	A	C	6B
C3514	A	C	5C
C3515	A	C	6B
C3516	A	C	6B
C3517	A	C	6B
C3518	A	C	6B
C3519	A	C	6A
C3520	A	C	6A
C3521	A	C	6A
C3522	A	C	6A
C3523	A	C	5A
C3524	A	C	5A
C3525	A	C	5A
C3526	A	C	6A
C3527	A	C	5B
C3528	A	C	5C
C3529	A	C	5C
CONNECTOR			
CN901	A	C	6C
CN902	B	C	1B
IC			
IC3501	A	C	5A
COIL			
L3501	A	C	6B
L3502	A	C	6B
L3503	B	C	5B
L3504	A	C	5B
TRANSISTOR			
Q3501	A	C	5C
Q3502	A	C	6C
Q3503	A	C	6C
Q3504	A	C	6B
RESISTOR			
R3501	A	C	5A
R3502	B	C	5A
R3503	B	C	5A
R3504	B	C	5A
R3505	A	C	5B
R3506	A	C	5C
R3507	A	C	5C
R3508	A	C	5C
R3509	A	C	6C
R3510	A	C	6B
R3511	A	C	6B
R3512	A	C	6B
R3513	A	C	6B
R3514	A	C	6B
R3515	A	C	6A
R3516	B	C	5A

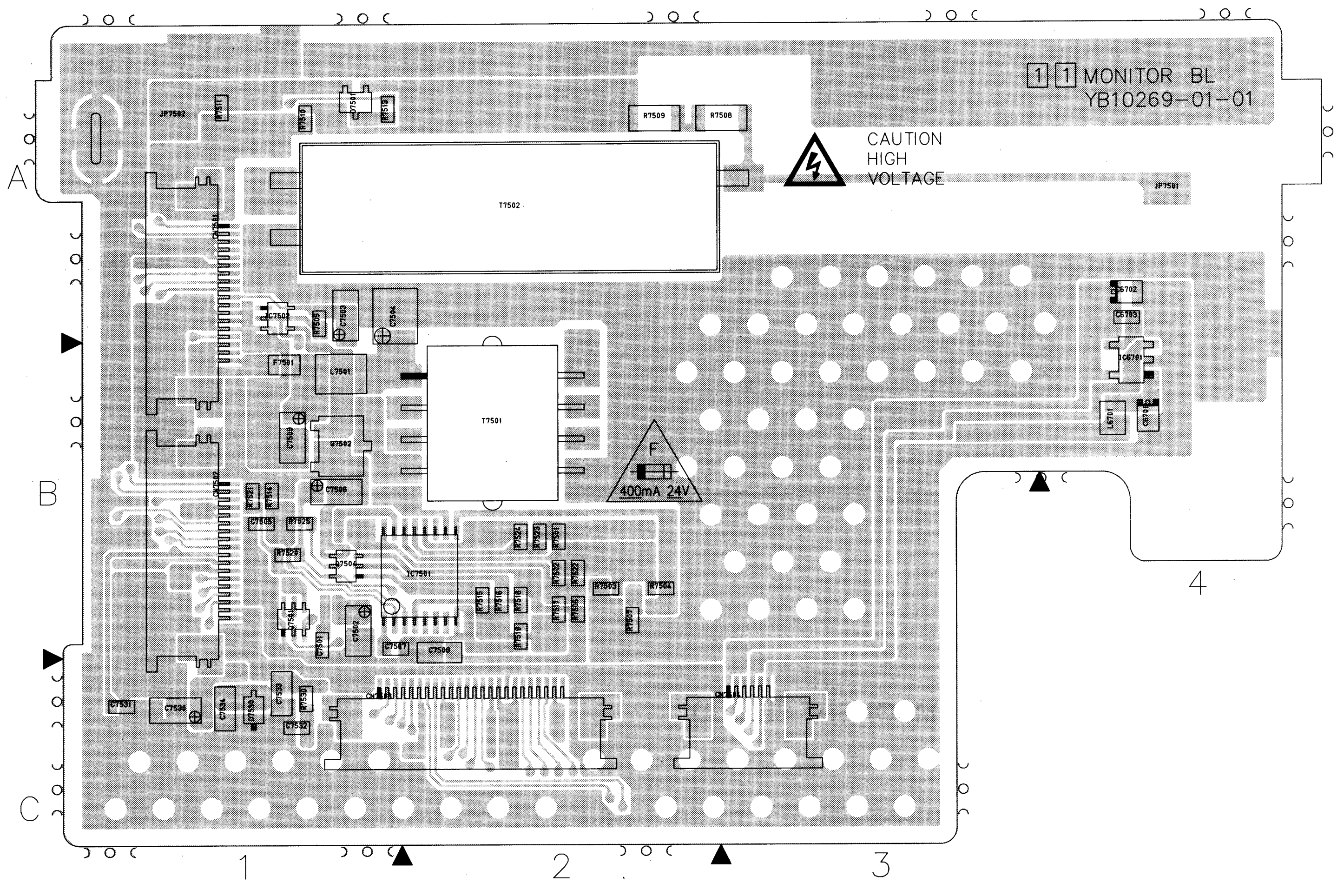
4.37 MONITOR BL CIRCUIT BOARD

FOIL SIDE (B)



1 1 MONITOR BL
YB10269-01-01
A
B
C
1
2
3
4

COMPONENT SIDE (A)



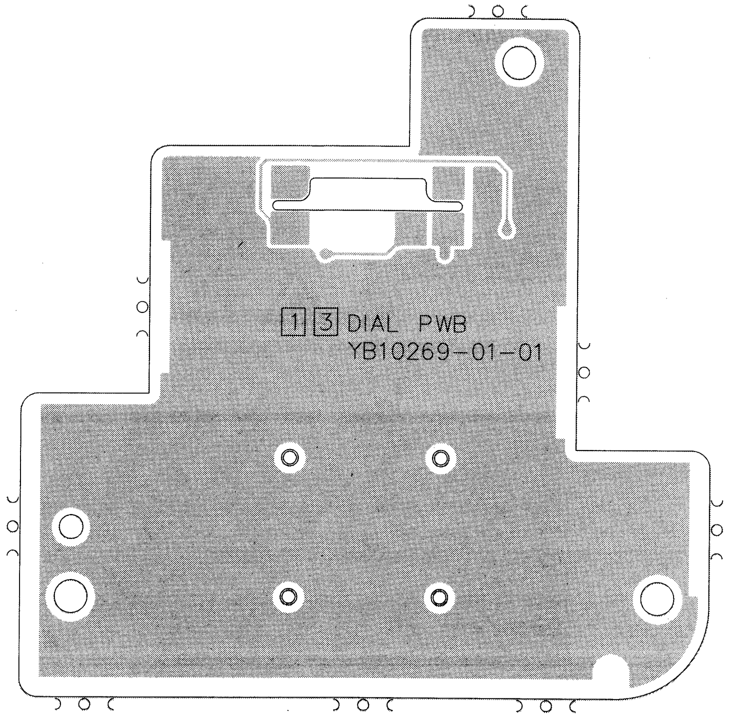
1 1 MONITOR BL
YB10269-01-01
CAUTION
HIGH
VOLTAGE
T7502
T7501
IC7501
F
400mA 24V
A
B
C
1
2
3
4

COMPONENT PARTS LOCATION GUIDE (MONITOR BL)

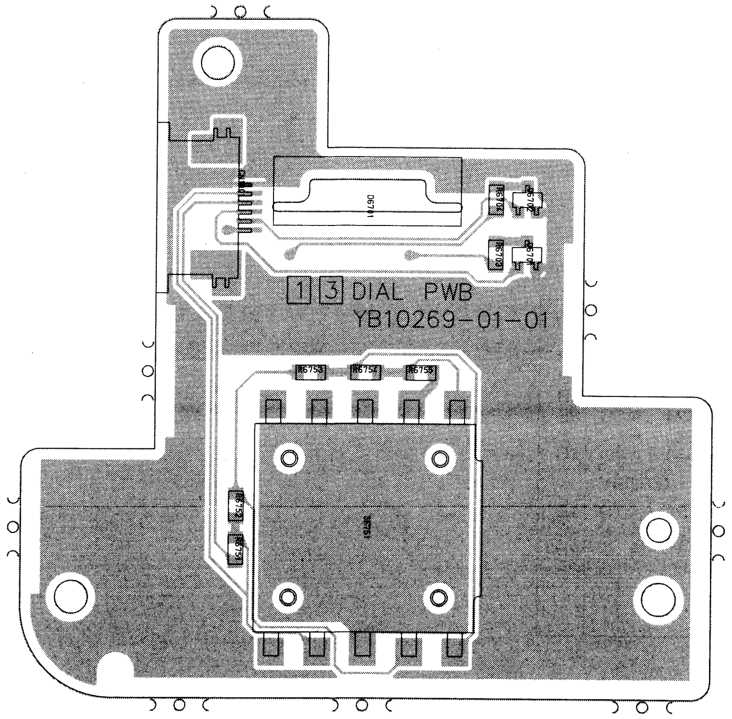
REF.No.	LOCATION		
CAPACITOR			
C6701	A	C	4B
C6702	A	C	4A
C6703	A	C	4A
C7501	A	C	1B
C7502	A	C	1B
C7503	A	C	1A
C7504	A	C	1A
C7505	A	C	1B
C7506	A	C	1B
C7507	A	C	1B
C7508	A	C	2B
C7509	A	C	1B
C7530	A	C	1C
C7531	A	C	1C
C7532	A	C	1C
C7533	A	C	1C
C7534	A	C	1C
CONNECTOR			
CN1301	A	C	4B
CN7501	A	C	1A
CN7502	A	C	1B
CN7503	A	C	1C
CN7504	A	C	3C
DIODE			
D6701	A	C	4B
D7501	A	C	1A
D7530	A	C	1C
IC			
IC6701	A	C	4B
IC7501	A	C	2B
IC7502	A	C	1A
COIL			
L6701	A	C	4B
L7501	A	C	1B
TRANSISTOR			
Q6701	A	C	4C
Q6702	A	C	4B
Q7501	A	C	1B
Q7502	A	C	1B
Q7504	A	C	1B
RESISTOR			
R6703	A	C	4C
R6704	A	C	4B
R6751	A	C	4C
R6752	A	C	4C
R6753	A	C	4C
R6754	A	C	4C
R6755	A	C	4C
R7501	A	C	2B
R7502	A	C	2B
R7503	A	C	2B
R7504	A	C	2B
R7505	A	C	1A
R7506	A	C	2B
R7507	A	C	2B
R7508	A	C	3A
R7509	A	C	2A
R7510	A	C	1A
R7511	A	C	1A
R7513	A	C	1A
R7514	A	C	1B
R7515	A	C	2B
R7516	A	C	2B
R7517	A	C	2B
R7518	A	C	2B
R7519	A	C	2B
R7520	A	C	1B
R7521	A	C	1B
R7522	A	C	2B
R7523	A	C	2B
R7524	A	C	2B
R7525	A	C	1B
R7530	A	C	1C
OTHER			
F7501	A	C	1B
S6751	A	C	4C
T7501	A	C	2B
T7502	A	C	2A

4.38 DIAL AND MPL CIRCUIT BOARDS

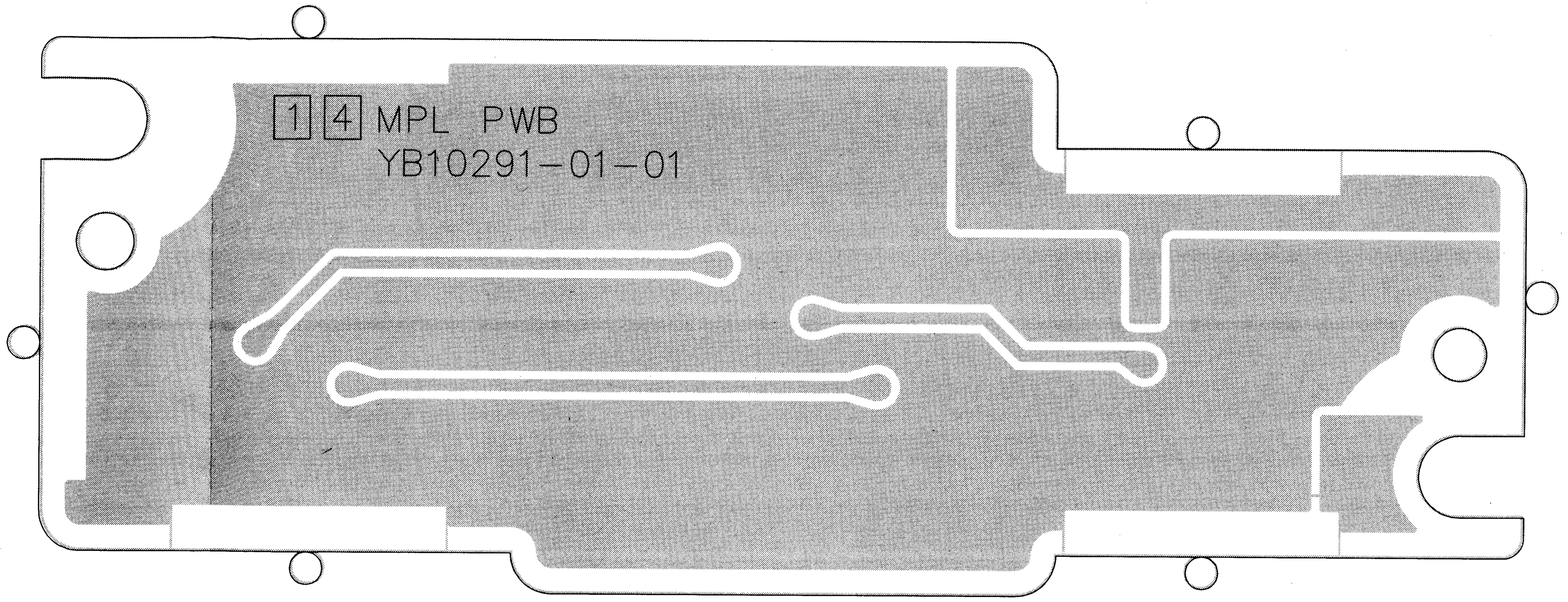
FOIL SIDE (B)


1 3 DIAL PWB
YB10269-01-01

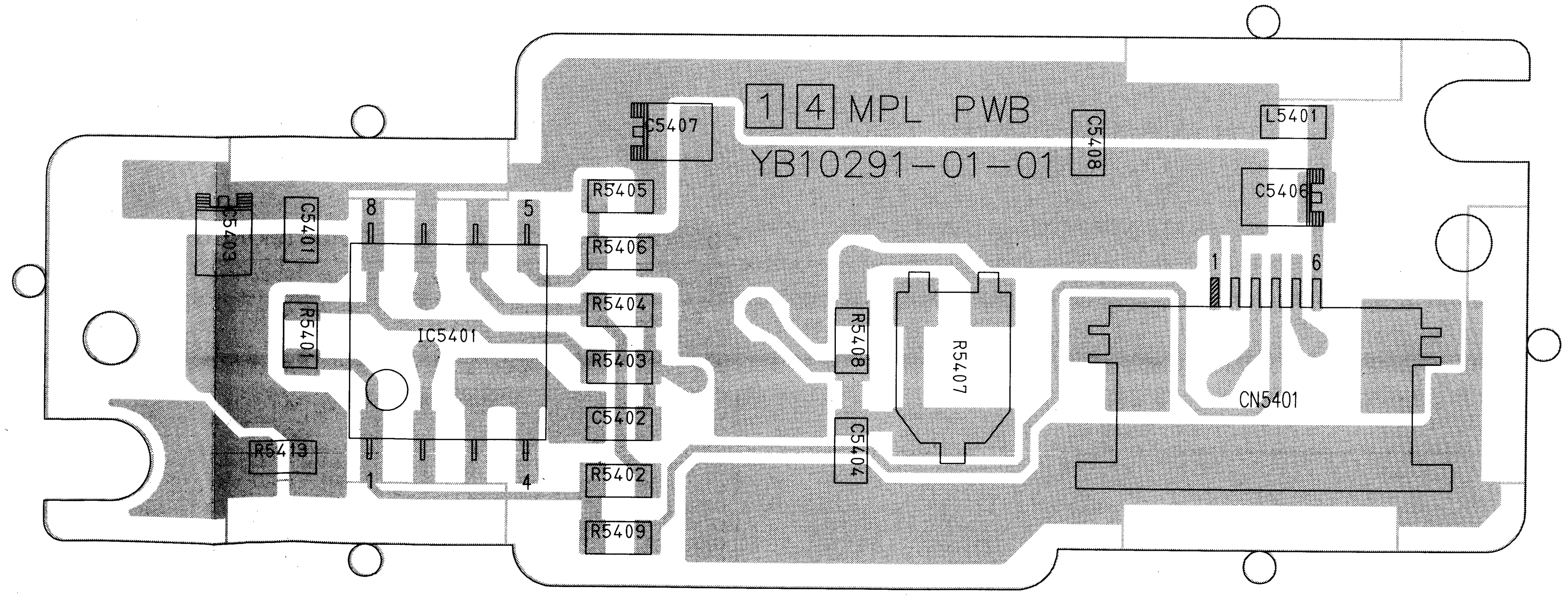
COMPONENT SIDE(A)


1 3 DIAL PWB
YB10269-01-01

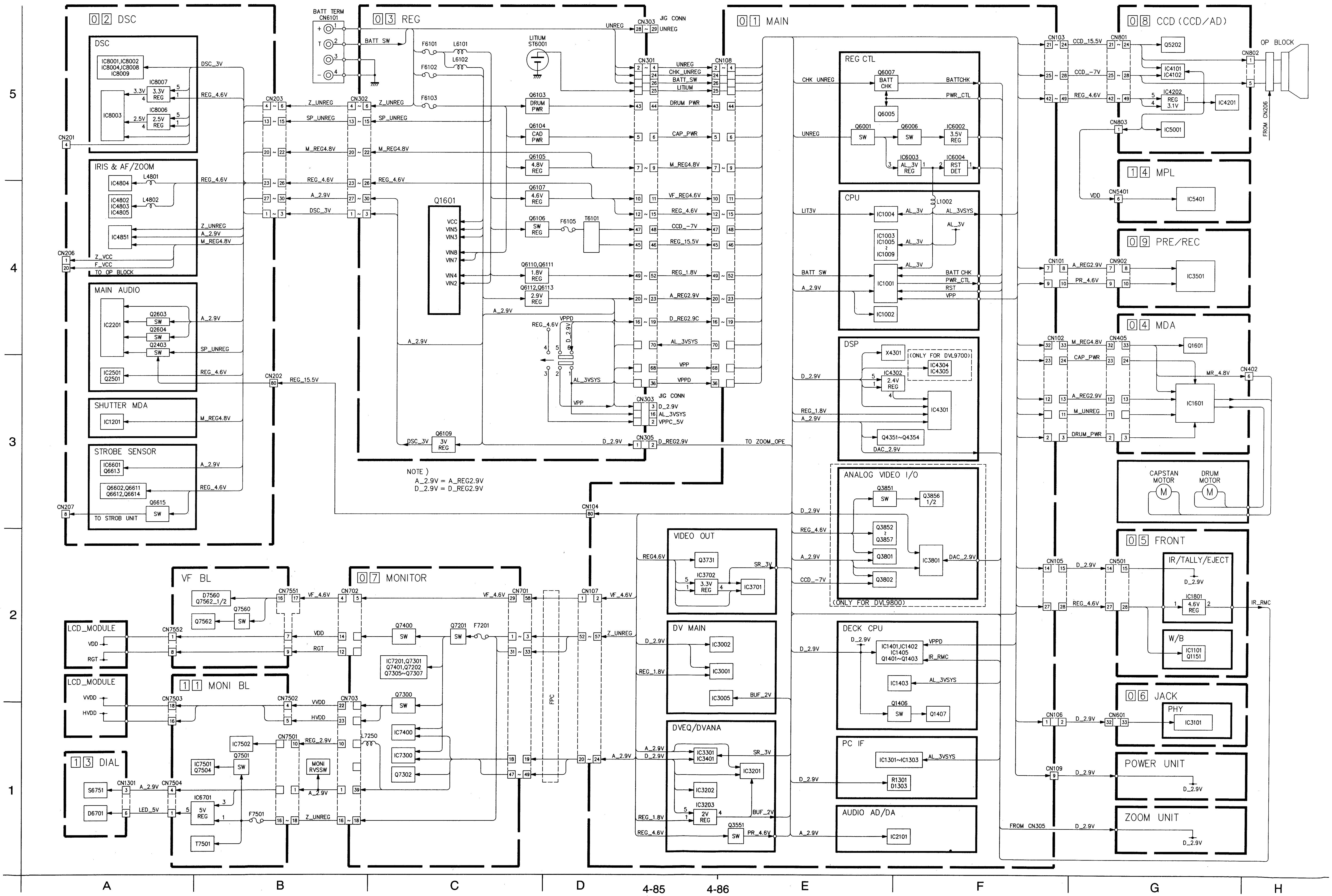
FOIL SIDE (B)


1 4 MPL PWB
YB10291-01-01

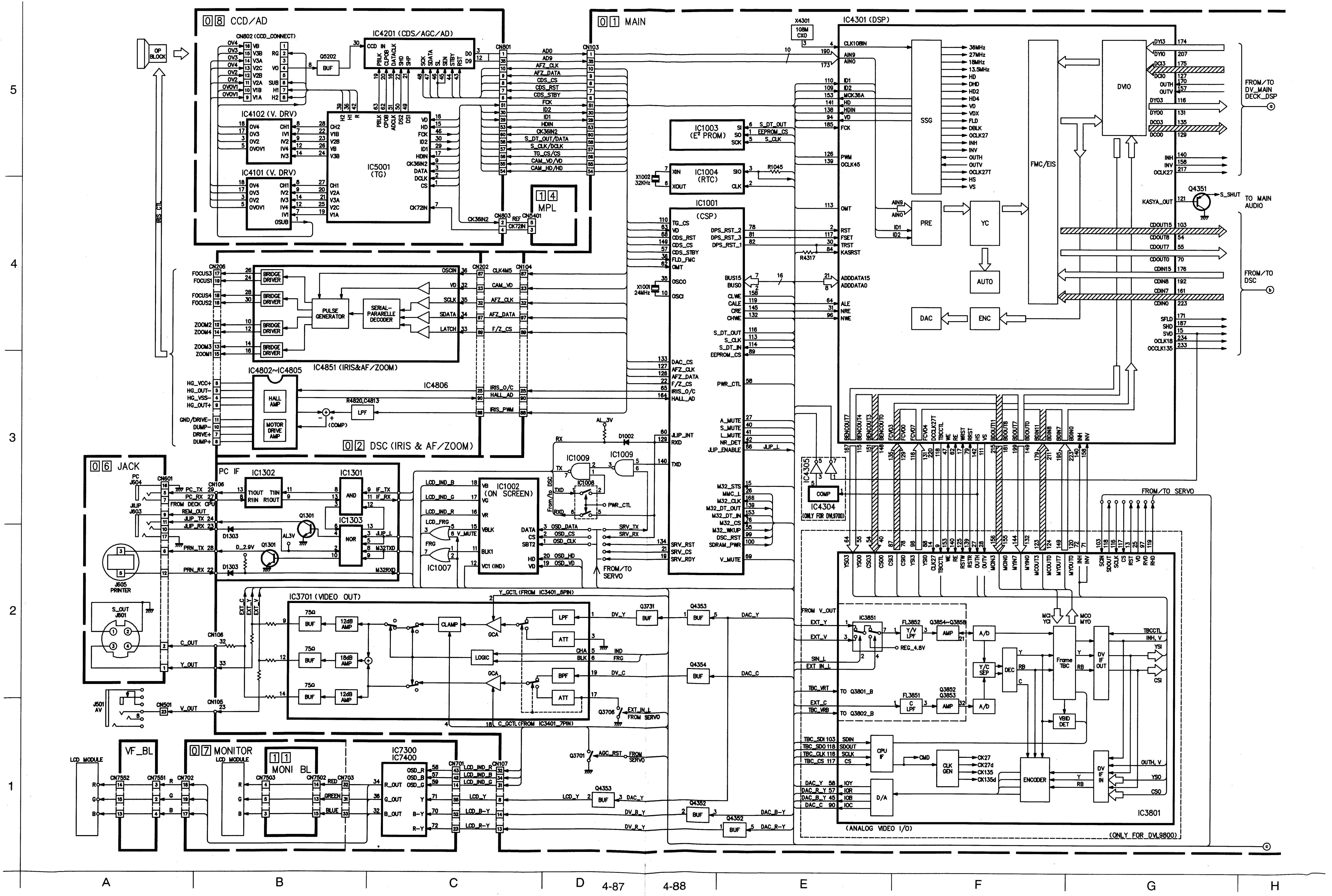
COMPONENT SIDE (A)

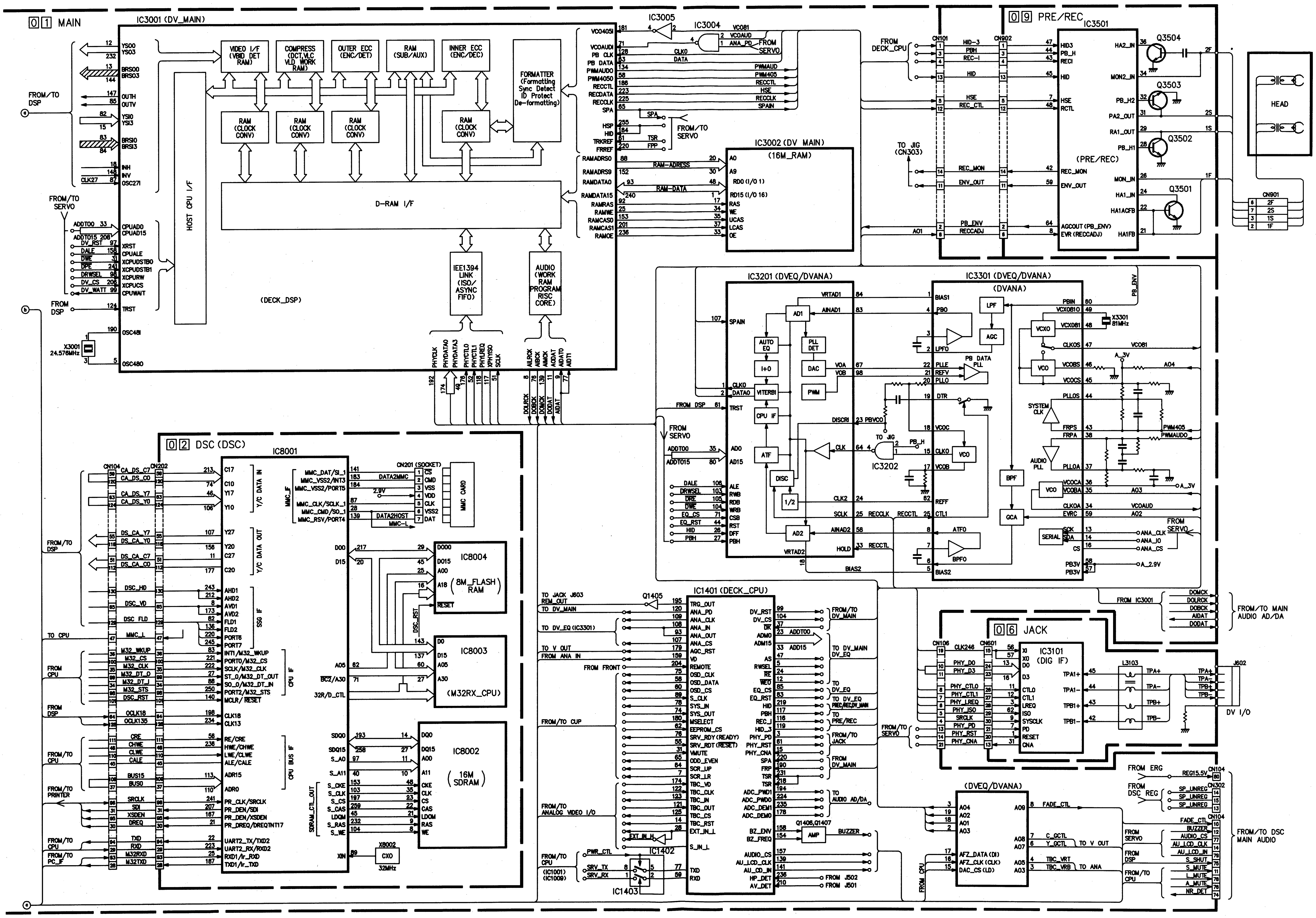

1 4 MPL PWB
YB10291-01-01
C5407
C5408
L5401
C5406
C5403
C5401
8
5
R5405
R5406
R5404
R5403
C5402
R5402
R5409
R5401
IC5401
R5413
1
4
R5408
R5407
C5404
1
6
CN5401

4.39 POWER SYSTEM BLOCK DIAGRAM

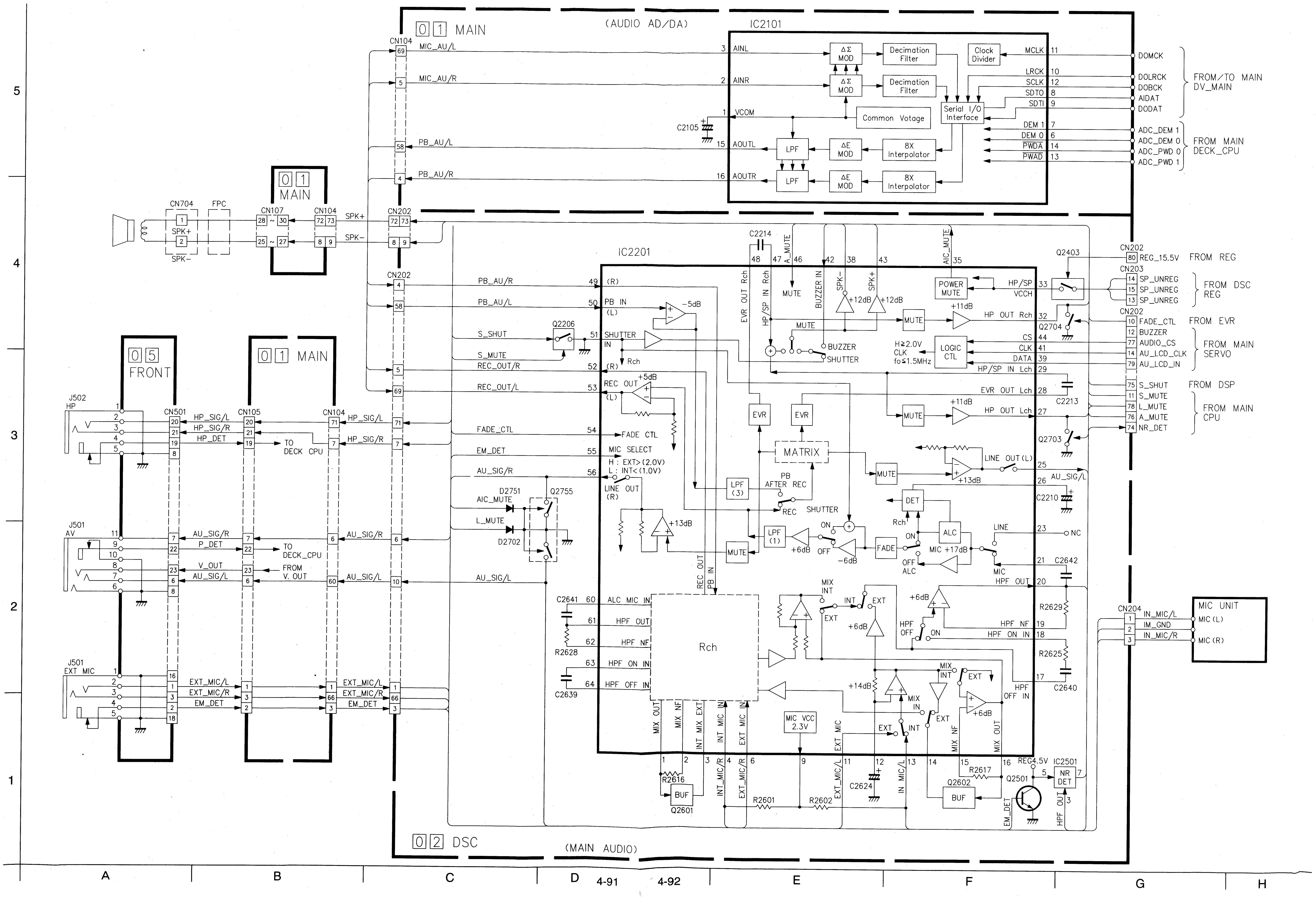

02 DSC
DSC
IC8001,IC8002
IC8004,IC8008
IC8009
IC8007
3.3V REG
IC8003
IC8006
2.5V REG
DSC_3V
REG_4.6V
CN201
IRIS & AF/ZOOM
IC4804
L4801
IC4802
IC4803
IC4805
L4802
IC4851
Z_UNREG
A_2.9V
M_REG4.8V
CN206
Z_VCC
F_VCC
TO OP BLOCK
MAIN AUDIO
IC2201
Q2603
Q2604
Q2403
SW
SP_UNREG
IC2501
Q2501
SHUTTER MDA
IC1201
STROBE SENSOR
IC6601
Q6613
Q6602,Q6611
Q6612,Q6614
Q6615
TO STROB UNIT
CN207
CN203
CN202
REG_15.5V
BATT TERM
CN6101
BATT SW
03 REG
F6101
L6101
L6102
F6102
F6103
LITIUM
ST6001
CN302
Z_UNREG
SP_UNREG
M_REG4.8V
REG_4.6V
Q1601
VCC
VIN5
VIN3
VIN8
VIN7
VIN4
VIN2
Q6103
DRUM PWR
Q6104
CAD PWR
Q6105
4.8V REG
Q6107
4.6V REG
Q6106
SW REG
F6105
T6101
Q6110,Q6111
1.8V REG
Q6112,Q6113
2.9V REG
VPPD
D_2.9V
AL_3VSYS
VPP
Q6109
3V REG
NOTE)
A_2.9V = A_REG2.9V
D_2.9V = D_REG2.9V
UNREG
CN303
JIG CONN
CN301
CN108
CHK_UNREG
BATT_SW
LITIUM
DRUM PWR
CAP_PWR
VF_REG4.6V
CCD_-7V
REG_15.5V
REG_1.8V
A_REG2.9V
D_REG2.9C
VPPD
D_2.9V
AL_3VSYS
VPPC_5V
CN305
D_REG2.9V
TO ZOOM_OPE
01 MAIN
REG CTL
CHK UNREG
Q6007
BATT CHK
Q6005
BATTCHK
PWR_CTL
Q6001
Q6006
IC6002
3.5V REG
IC6003
AL_3V REG
IC6004
RST DET
L1002
CPU
LIT3V
IC1004
AL_3V
AL_3VSYS
IC1003
IC1005
IC1009
IC1001
BATT SW
IC1002
RST
DSP
X4301
(ONLY FOR DVL9700)
IC4304
IC4305
IC4302
2.4V REG
IC4301
Q4351~Q4354
DAC_2.9V
ANALOG VIDEO I/O
Q3851
Q3856
1/2
Q3852
Q3857
Q3801
Q3802
IC3801
DAC_2.9V
(ONLY FOR DVL9800)
CN104
VIDEO OUT
REG4.6V
Q3731
IC3702
3.3V REG
IC3701
SR_3V
DV MAIN
IC3002
IC3001
IC3005
BUF_2V
DVEQ/DVANA
IC3301
IC3401
IC3201
IC3202
IC3203
2V REG
Q3551
PR_4.6V
DECK CPU
IC1401,IC1402
IC1405
Q1401~Q1403
IR_RMC
IC1403
Q1406
Q1407
PC IF
IC1301~IC1303
R1301
D1303
AUDIO AD/DA
IC2101
FROM CN305
CN103
CN801
08 CCD (CCD/AD)
CCD_15.5V
CCD_-7V
Q5202
IC4101
IC4102
IC4202
REG 3.1V
IC4201
CN802
OP BLOCK
CN803
IC5001
FROM CN206
14 MPL
VDD
CN5401
IC5401
09 PRE/REC
CN101
CN902
A_REG2.9V
PR_4.6V
IC3501
04 MDA
CN102
CN405
CAP_PWR
M_UNREG
DRUM_PWR
Q1601
CN402
MR_4.8V
IC1601
CAPSTAN MOTOR
DRUM MOTOR
M
05 FRONT
CN105
CN501
IR/TALLY/EJECT
IC1801
4.6V REG
W/B
IC1101
Q1151
06 JACK
CN106
CN601
PHY
IC3101
CN109
POWER UNIT
ZOOM UNIT
VF BL
D7560
Q7562_1/2
Q7560
Q7562
CN7551
VF_4.6V
RGT
07 MONITOR
CN702
Q7400
Q7201
F7201
IC7201,Q7301
Q7401,Q7202
Q7305~Q7307
CN701
FPC
CN107
LCD_MODULE
CN7552
11 MONI BL
CN7503
VVDD
HVDD
CN7502
CN703
Q7300
IC7400
IC7300
Q7302
CN7501
IC7502
Q7501
IC7501
Q7504
MONI RVSSW
L7250
13 DIAL
CN1301
S6751
D6701
CN7504
IC6701
5V REG
LED_5V
F7501
T7501
A
B
C
D
E
F
G
H
1
2
3
4
5

4.40 VIDEO SYSTEM BLOCK DIAGRAM

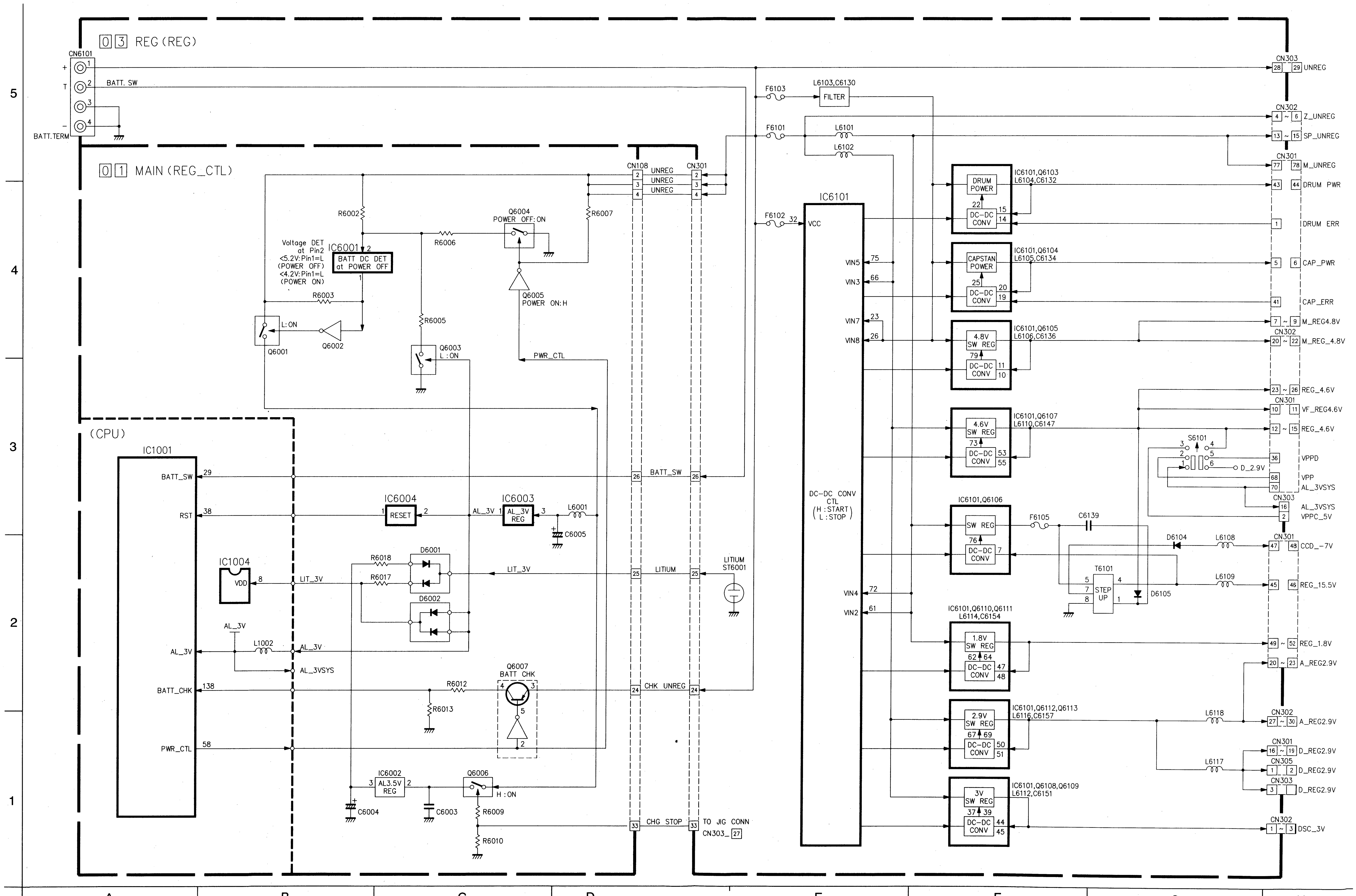

08 CCD/AD
IC4201 (CDS/AGC/AD)
IC4102 (V. DRV)
IC4101 (V. DRV)
IC5001 (TG)
CN802 (CCD_CONNECT)
OP BLOCK
IRIS CTL
14 MPL
01 MAIN
IC1003 (E² PROM)
IC1004 (RTC)
IC1001 (CSP)
IC4301 (DSP)
SSG
FMC/EIS
DVIO
PRE
YC
AUTO
DAC
ENC
FROM/TO DV_MAIN DECK_DSP
TO MAIN AUDIO
FROM/TO DSC
IC4851 (IRIS&AF/ZOOM)
PULSE GENERATOR
SERIAL-PARARELLE DECODER
BRIDGE DRIVER
IC4802~IC4805
HALL AMP
MOTOR DRIVE AMP
IC4806
02 DSC (IRIS & AF/ZOOM)
06 JACK
PC IF
IC1302
IC1301
IC1303
IC1002 (ON SCREEN)
IC1007
IC1009
IC4305
IC4304
(ONLY FOR DVL9700)
FROM/TO SERVO
IC3701 (VIDEO OUT)
BUF
12dB AMP
18dB AMP
CLAMP
GCA
LOGIC
LPF
ATT
BPF
IC3851
IC3801
(ANALOG VIDEO I/O)
(ONLY FOR DVL9800)
Frame TBC
ENCODER
CLK GEN
CPU IF
D/A
A/D
DEC
Y/C SEP
VBID DET
DV IF OUT
DV IF IN
VF_BL
07 MONITOR
11 MONI BL
LCD MODULE
IC7300 IC7400
J604 PC
J603 JLIP
J605 PRINTER
J601 S_OUT
J501 AV
A
B
C
D
E
F
G
H
1
2
3
4
5


01 MAIN
IC3001 (DV_MAIN)
VIDEO I/F (VBID DET RAM)
COMPRESS (DCT,VLC VLD WORK RAM)
OUTER ECC (ENC/DET)
RAM (SUB/AUX)
INNER ECC (ENC/DEC)
FORMATTER (Formatting Sync Detect ID Protect De-formatting)
RAM (CLOCK CONV)
HOST CPU I/F
D-RAM I/F
IEE1394 LINK (ISO/ASYNC FIFO)
AUDIO (WORK RAM PROGRAM RISC CORE)
(DECK_DSP)
FROM/TO DSP
FROM/TO SERVO
FROM DSP
X3001 24.576MHz
IC3005
IC3004
FROM/TO SERVO
IC3002 (DV MAIN)
(16M_RAM)
RAM-ADRESS
RAM-DATA
09 PRE/REC
IC3501
(PRE/REC)
Q3504
Q3503
Q3502
Q3501
HEAD
FROM DECK_CPU
TO JIG (CN303)
CN101
CN902
CN901
IC3201 (DVEQ/DVANA)
IC3301 (DVEQ/DVANA)
(DVANA)
AD1
AUTO EQ
PLL DET
DAC
PWM
VITERBI
CPU IF
ATF
DISC
AD2
IC3202
LPF
AGC
VCXO
VCO
BPF
GCA
SYSTEM CLK
AUDIO PLL
SERIAL
X3301 81MHz
FROM SERVO
FROM IC3001
FROM/TO MAIN AUDIO AD/DA
02 DSC (DSC)
IC8001
Y/C DATA IN
Y/C DATA OUT
SSG IF
CPU IF
CPU BUS IF
MMC_IF
SDRAM_CTL_OUT
CN201 (SOCKET)
MMC CARD
IC8004 (8M_FLASH RAM)
IC8003 (M32RX_CPU)
IC8002 (16M SDRAM)
X8002 CXO 32MHz
FROM/TO DSP
TO CPU
FROM CPU
FROM DSP
FROM/TO CPU
FROM/TO PRINTER
FROM/TO PC_IF
IC1401 (DECK_CPU)
Q1405
IC1402
IC1403
TO JACK J603
TO DV_EQ (IC3301)
TO V OUT
FROM ANA IN
FROM FRONT
FROM/TO CUP
FROM/TO ANALOG VIDEO I/O
FROM/TO CPU (IC1001) (IC1009)
FROM/TO DV_MAIN
TO DV_EQ
TO PRE/REC
FROM/TO JACK
FROM DV_MAIN
TO AUDIO AD/DA
Q1406,Q1407 AMP
BUZZER
FROM J502
FROM J501
06 JACK
IC3101 (DIG IF)
L3103
J602
DV I/O
FROM/TO SERVO
(DVEQ/DVANA)
FROM CPU
FROM ERG
FROM DSC REG
FROM SERVO
FROM DSP
FROM/TO CPU
TO V OUT
TO ANA
FROM/TO DSC MAIN AUDIO
CN104
CN302

4.41 AUDIO SYSTEM BLOCK DIAGRAM


01 MAIN
(AUDIO AD/DA)
IC2101
CN104
MIC_AU/L
MIC_AU/R
PB_AU/L
PB_AU/R
AINL
AINR
VCOM
AOUTL
AOUTR
C2105
ΔΣ MOD
Decimation Filter
Clock Divider
Common Votage
Serial I/O Interface
LPF
ΔE MOD
8X Interpolator
MCLK
LRCK
SCLK
SDTO
SDTI
DEM 1
DEM 0
PWDA
PWAD
DOMCK
DOLRCK
DOBCK
AIDAT
DODAT
FROM/TO MAIN DV_MAIN
ADC_DEM 1
ADC_DEM 0
ADC_PWD 0
ADC_PWD 1
FROM MAIN DECK_CPU
CN704
FPC
CN107
CN202
SPK+
SPK-
01 MAIN
IC2201
C2214
EVR OUT Rch
HP/SP IN Rch
A_MUTE
BUZZER IN
AIC_MUTE
MUTE
+12dB
POWER MUTE
HP/SP
VCCH
Q2403
CN202
REG_15.5V
FROM REG
CN203
SP_UNREG
FROM DSC REG
FADE_CTL
FROM EVR
BUZZER
AUDIO_CS
AU_LCD_CLK
AU_LCD_IN
FROM MAIN SERVO
S_SHUT
FROM DSP
S_MUTE
L_MUTE
A_MUTE
NR_DET
FROM MAIN CPU
PB_AU/R
PB_AU/L
S_SHUT
S_MUTE
REC_OUT/R
REC_OUT/L
FADE_CTL
EM_DET
AU_SIG/R
AIC_MUTE
L_MUTE
AU_SIG/L
Q2206
D2751
D2702
Q2755
(R)
PB IN (L)
-5dB
SHUTTER IN
REC OUT (L)
+5dB
FADE CTL
MIC SELECT
H : EXT>(2.0V)
L : INT<(1.0V)
LINE OUT (R)
+13dB
EVR
MATRIX
LPF (3)
PB AFTER REC
SHUTTER
REC
LPF (1)
+6dB
ON
OFF
-6dB
FADE
ALC
MIC +17dB
LINE
MIC HPF OUT
DET
Rch
+11dB
HP OUT Rch
Q2704
CS
CLK
DATA
LOGIC CTL
H≥2.0V CLK fo≤1.5MHz
HP/SP IN Lch
EVR OUT Lch
C2213
HP OUT Lch
Q2703
LINE OUT (L)
AU_SIG/L
C2210
NC
C2642
R2629
HPF NF
HPF ON IN
R2625
C2640
HPF OFF IN
CN204
IN_MIC/L
IM_GND
IN_MIC/R
MIC UNIT
MIC (L)
MIC (R)
C2641
ALC MIC IN
HPF OUT
HPF NF
HPF ON IN
HPF OFF IN
R2628
C2639
REC OUT
PB IN
MIX INT
EXT
+6dB
+14dB
MIX IN
INT
HPF OFF
MIX OUT
MIX NF
INT MIX EXT
INT MIC IN
EXT MIC IN
MIC VCC 2.3V
EXT MIC
MIX NF
MIX OUT
R2616
BUF
Q2601
INT_MIC/R
EXT_MIC/R
R2601
R2602
EXT_MIC/L
C2624
IN MIC/L
R2617
Q2602
Q2501
REG4.5V
IC2501
NR DET
EM_DET
HPF OUT
02 DSC
(MAIN AUDIO)
05 FRONT
01 MAIN
J502 HP
J501 AV
J501 EXT MIC
CN501
CN105
CN104
HP_SIG/L
HP_SIG/R
HP_DET
TO DECK CPU
P_DET
TO DECK_CPU
V_OUT
FROM V. OUT
AU_SIG/R
AU_SIG/L
EXT_MIC/L
EXT_MIC/R
EM_DET
A
B
C
D
E
F
G
H
1
2
3
4
5

4.42 REGULATOR SYSTEM BLOCK DIAGRAM


03 REG (REG)
01 MAIN (REG_CTL)
(CPU)
CN6101
BATT.TERM
BATT. SW
CN303
28 29 UNREG
F6103
L6103,C6130
FILTER
CN302
4 ~ 6 Z_UNREG
F6101
L6101
13 ~ 15 SP_UNREG
L6102
CN301
77 78 M_UNREG
CN108
CN301
UNREG
IC6101
F6102
VCC
DRUM POWER
DC-DC CONV
IC6101,Q6103 L6104,C6132
43 44 DRUM PWR
1 DRUM ERR
CAPSTAN POWER
IC6101,Q6104 L6105,C6134
5 6 CAP_PWR
41 CAP_ERR
VIN5
VIN3
VIN7
VIN8
4.8V SW REG
IC6101,Q6105 L6106,C6136
7 ~ 9 M_REG4.8V
20 ~ 22 M_REG_4.8V
23 ~ 26 REG_4.6V
10 11 VF_REG4.6V
4.6V SW REG
IC6101,Q6107 L6110,C6147
12 ~ 15 REG_4.6V
S6101
D_2.9V
36 VPPD
68 VPP
70 AL_3VSYS
16 AL_3VSYS
2 VPPC_5V
DC-DC CONV CTL (H:START L:STOP)
IC6101,Q6106
SW REG
F6105
C6139
D6104
L6108
47 48 CCD_-7V
T6101
STEP UP
D6105
L6109
45 46 REG_15.5V
VIN4
VIN2
1.8V SW REG
IC6101,Q6110,Q6111 L6114,C6154
49 ~ 52 REG_1.8V
20 ~ 23 A_REG2.9V
2.9V SW REG
IC6101,Q6112,Q6113 L6116,C6157
L6118
27 ~ 30 A_REG2.9V
L6117
CN305
16 ~ 19 D_REG2.9V
1 2 D_REG2.9V
3 D_REG2.9V
3V SW REG
IC6101,Q6108,Q6109 L6112,C6151
1 ~ 3 DSC_3V
R6002
Voltage DET at Pin2 <5.2V:Pin1=L (POWER OFF) <4.2V:Pin1=L (POWER ON)
IC6001
BATT DC DET at POWER OFF
R6006
Q6004 POWER OFF:ON
R6007
R6003
Q6001
L:ON
Q6002
R6005
Q6003 L:ON
Q6005 POWER ON:H
PWR_CTL
IC1001
BATT_SW
RST
AL_3V
BATT_CHK
PWR_CTL
IC6004 RESET
IC6003 AL_3V REG
L6001
C6005
IC1004 VDD
LIT_3V
R6018
R6017
D6001
D6002
LITIUM
LITIUM ST6001
L1002
AL_3VSYS
Q6007 BATT CHK
R6012
R6013
CHK UNREG
IC6002 AL3.5V REG
C6004
C6003
Q6006 H:ON
R6009
R6010
CHG STOP
TO JIG CONN CN303_27
A
B
C
D
E
F
G
H
1
2
3
4
5

4.43 VOLTAGE CHARTS

Note: Parts whose data cannot be obtained (for example, CSP IC, etc.) are omitted from the following chart in some cases.

<CPU>

MODE PIN NO.	REC	PLAY
IC1002		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
IC1003		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
IC1004		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
IC1005		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
IC1006		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
IC1007		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
IC1008		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
IC1009		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-

<DV MAIN>

MODE PIN NO.	REC	PLAY
IC3004		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
IC3005		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-

<DVEQ/DVANA>

MODE PIN NO.	REC	PLAY
IC3202		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
IC3203		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
IC3301		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-
33	-	-
34	-	-
35	-	-
36	-	-
37	-	-
38	-	-
39	-	-
40	-	-
41	-	-
42	-	-
43	-	-
44	-	-
45	-	-
46	-	-
47	-	-
48	-	-
49	-	-
50	-	-
51	-	-
52	-	-
53	-	-
54	-	-
55	-	-
56	-	-
57	-	-
58	-	-
59	-	
60	-	-
61	-	-
62	-	-
63	-	-
64	-	-
IC3401		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
Q3551		
E	-	-
C	-	-
B	-	-
Q3552		
E	-	-
C	-	-
B	-	-

<VIDEO OUT>

MODE PIN NO.	REC	PLAY
IC3701		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
IC3702		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
Q3701		
E	0	0
C	0	0
B	2.9	2.9
Q3705		
E	0	0
C	4.8	4.7
B	0	0
Q3706		
E	0	0
C	0	0
B	3	2.9
Q3731		
E	-	-
C	-	-
B	-	-

<ANALOG VIDEO I/O>

MODE PIN NO.	REC	PLAY
IC3851		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
Q3801		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
Q3802		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
Q3851		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
Q3852		
1	0	0
2	0	0
3	0	0
4	4.8	0
5	4.8	4.8
6	4.8	4.8
Q3853		
E	-	-
C	-	-
B	-	-
Q3854		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
Q3855		
E	-	-
C	-	-
B	-	-
Q3856		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
Q3857		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
Q3858		
E	-	-
C	-	-
B	-	-

<DSP>

MODE PIN NO.	REC	PLAY
IC4302		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
IC4303		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
IC4304		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
IC4305		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
Q4351		
E	-	-
C	-	-
B	-	-
Q4352		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
Q4353		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
Q4354		
E	-	-
C	-	-
B	-	-

<AUDIO AD/DA>

MODE PIN NO.	REC	PLAY
IC2101		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-

<REG CTL>

MODE PIN NO.	REC	PLAY
IC2201		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-
33	-	-
34	-	-
35	-	-
36	-	-
37	-	-
38	-	-
39	-	-
40	-	-
41	-	-
42	-	-
43	-	-
44	-	-
45	-	-
46	-	-
47	-	-
48	-	-
49	-	-
50	-	-
51	-	-
52	-	-
53	-	-
54	-	-
55	-	-
56	-	-
57	-	-
58	-	-
59	-	-
60	-	-
61	-	-
62	-	-
63	-	-
64	-	-
IC2501		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
Q2403		
E	5.4	0
C	6.7	6.7
B	6.1	6
Q2501		
E	-	-
C	-	-
B	-	-
Q2603		
E	-	-
C	-	-
B	-	-
Q2604		
E	-	-
C	-	-
B	-	-
Q2703		
E	-	-
C	-	-
B	-	-
Q2704		
E	-	-
C	-	-
B	-	-
Q2705		
E	-	-
C	-	-
B	-	-
Q2755		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0

<SHUTTER MDA>

MODE PIN NO.	REC	PLAY
IC1201		
1	0.3	-
2	4.9	4.9
3	4.9	4.9
4	0	-
5	0	0
6	0.9	3
7	1.5	-
8	0	0

<MAIN AUDIO>

MODE PIN NO.	REC	PLAY
IC2201		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-
33	-	-
34	-	-
35	-	-
36	-	-
37	-	-
38	-	-
39	-	-
40	-	-
41	-	-
42	-	-
43	-	-
44	-	-
45	-	-
46	-	-
47	-	-
48	-	-
49	-	-
50	-	-
51	-	-
52	-	-
53	-	-
54	-	-
55	-	-
56	-	-
57	-	-
58	-	-
59	-	-
60	-	-
61	-	-
62	-	-
63	-	-
64	-	-
IC2501		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
Q2403		
E	5.4	0
C	6.7	6.7
B	6.1	6
Q2501		
E	-	-
C	-	-
B	-	-
Q2603		
E	-	-
C	-	-
B	-	-
Q2604		
E	-	-
C	-	-
B	-	-
Q2703		
E	-	-
C	-	-
B	-	-
Q2704		
E	-	-
C	-	-
B	-	-
Q2705		
E	-	-
C	-	-
B	-	-
Q2755		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0

<IRIS&AF/ZOOM>

MODE PIN NO.	REC	PLAY
IC4802		
1	3.9	0
2	3.8	0
3	2.2	2.1
4	0	0
5	0	2.1
6	0	2.2
7	2.1	2.2
8	4.8	4.8
IC4803		
1	1.1	0
2	0.4	0.4
3	0.4	0.4
4	0	0
5	3.9	3.7
6	2.1	2.2
7	3.4	3.5
8	4.8	4.8
IC4804		
1	0.7	0.7
2	2.3	2.4
3	2.2	2.2
4	0	0
5	0	2.2
6	1.7	1.7
7	4	0
8	4.7	4.7
IC4805		
1	0	0
2	3.2	3.2
3	0	0
4	0	0
5	2.1	2
6	2.5	2.4
7	2.1	2.1
8	4.8	4.8
IC4851		
1	0	0
2	0.5	0.4
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	3	3
9	6.7	6.7
10	3	0
11	0	0
12	3.1	0
13	6.7	6.8
14	2.9	0
15	0	0
16	3	0
17	0	0
18	0	0
19	0	0
20	0	0
21	0.7	0
22	0	0
23	6.7	6.7
24	1.4	0
25	0	0
26	3.3	0
27	6.7	6.7
28	1.4	0.4
29	0	0
30	-	0
31	3	3
32	0	0
33	0	0
34	2.9	2.9
35	2.9	2.9
36	1.5	1.4
37	1.5	1.4
38	2.9	2.9
Q4803		
E	0.4	0.4
C	3.7	3.7
B	1.1	1.1
Q4851		
E	0	0
C	3.7	1
B	0	0

<STROBE SENSOR>

MODE PIN NO.	REC	PLAY
IC6601		
1	2.3	0
2	3	2.9
3	3	3
4	0	0
5	0	0
6	0	0
7	0	3
8	3	3
Q6601		
E	0	0
C	0.9	0
B	0	0
Q6602		
1	1.2	1.8
2	3.3	3.3
3	2.8	2.8
4	2.3	2.3
5	0	0
Q6611		
E	0.5	0.5
C	0.8	0
B	0	0
Q6612		
1	1.1	0
2	1.2	1
3	1.1	0
4	0	0
5	0	0
Q6613		
E	1.5	0
C	1.7	1.7
B	0	0
Q6614		
1	0	0
2	0	0
3	0	0
4	0.5	0.5
5	1.8	0
Q6615		
1	0.9	0
2	0	0
3	4.8	4.8
4	0.4	0
5	4.8	4.8

<DSC>

MODE PIN NO.	REC	PLAY
IC8004		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-
33	-	-
34	-	-
35	-	-
36	-	-
37	-	-
38	-	-
39	-	-
40	-	-
41	-	-
42	-	-
43	-	-
44	-	-
45	-	-
46	-	-
47	-	-
48	-	-
IC8006		
1	1.4	0
2	0	0
3	1.4	1.2
4	2.5	2.5
5	3	0
IC8007		
1	4.8	4.8
2	0	0
3	1.3	1.2
4	3.3	3.3
5	4.8	4.8
IC8008		
1	1.8	1.4
2	1.5	0
3	0	0
4	0	0
5	3	3
6	1.4	0
7	1.4	1.3
8	3	3
IC8009		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-

<REG>

MODE PIN NO.	REC	PLAY
IC6101		
1	0	0
2	0.8	0
3	0.8	0
4	0.9	0
5	1.1	1
6	1.2	1.5
7	1.2	4.2
8	1.3	0
9	1.2	0
10	1.2	0
11	3.1	3.2
12	1.2	0.4
13	1.1	0.4
14	0	0
15	1.1	0
16	1.1	0
17	0.7	0
18	1.1	0
19	1.2	0
20	1.1	0
21	0	0
22	4.8	4.9
23	6.7	6.8
24	0	0
25	5.6	5.6
26	6.7	6.7
27	1.3	1.3
28	0.5	0.5
29	0	0
30	0	0
31	0	0
32	6.7	6.7
33	0	3.9
34	0	2.1
35	0.4	0
36	0	0
37	1.8	1.8
38	0	0
39	4	0
40	6.6	6.7
41	0.6	2.9
42	0.5	3
43	0.4	2.9
44	2.3	2.3
45	1.5	0
46	0.4	0.9
47	1.8	1.8
48	1.5	0
49	0.8	0
50	2.3	2.3
51	1.5	1.5
52	1	0.9
53	2.9	2.9
54	0.5	0
55	1.5	1.5
56	1.1	1
57	0	0
58	1	0
59	0	0
60	0	0
61	6.7	6.7
62	4.7	4.7
63	0	0
64	2.2	2.3
65	0	0
66	6.7	6.7
67	3.6	3.5
68	0	0
69	0	0
70	0	0
71	0	0
72	0.4	0
73	1.8	0
74	0.8	0
75	6.7	6.7
76	2.6	2.6
77	0	0
78	6.7	6.8
79	6.6	-
80	0	0
Q6103		
1	1.8	1.8
2	1.8	1.8
3	4.9	4.8
4	6.8	6.7
5	1.8	0
6	1.8	1.8
Q6104		
1	1	1
2	1	0
3	5.6	0
4	6.8	6.7
5	0	1
6	0	1
Q6105		
1	4.9	0
2	4.9	0
3	6.6	0
4	6.7	6.7
5	4.9	4.9
6	4.9	5
Q6106		
1	0	0
2	0	0
3	2.6	2.6
4	6.7	6.7
5	0	0
6	0	0
Q6107		
1	4.8	4.8
2	4.8	4.8
3	1.8	0
4	6.7	6.7
5	4.8	4.8
6	4.8	4.8
Q6108		
1	4.9	0
2	4.9	3
3	6.7	4
4	6.8	6.7
5	5	3
6	4.9	3
Q6110		
1	1.8	0
2	0	1.8
3	4.7	0
4	6.7	6.7
5	1.8	1.8
6	0	1.8
Q6109		
G	0	1.8
D	3	0
S	0	0
Q6112		
1	3.1	0
2	3.1	3.1
3	0	0
4	6.7	6.7
5	3.1	3.1
6	3.1	3.1
Q6113		
G	1.6	1.5
D	3.1	3.1
S	0	0

<MDA>

MODE PIN NO.	REC	PLAY
IC1601		
1	0	0
2	0.9	0
3	0.9	0.9
4	0	0
5	0.9	0.9
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	5	5
15	0	0
16	0.4	0
17	0	0
18	0.5	0
19	0	0
20	0.5	0
21	0	0
22	0	0
23	0	0
24	6.7	6.7
25	1.5	1.5
26	0	-
27	1.5	1.5
28	1.5	1.5
29	0	0
30	1.5	0
31	0	1.5
32	1.5	0
33	1.5	1.5
34	1.5	1.5
35	3	3
36	3	3
37	0	0
38	0.7	0.7
39	0.7	0
40	1.2	1.2
41	0	0
42	0	0.4
43	3	0
44	0	0
45	0	0
46	0	0
47	3	0
48	0	3
49	0	0
50	0	0
51	0	0
52	0	0
53	0	0
54	0.4	0
55	0.7	0
56	0.7	0.7
57	0	1
58	0.6	0.6
59	0	0
60	1	1.1
61	2.7	2.7
62	1.2	0
63	1.5	0
64	0	1.5
65	1.5	1.5
66	0	0
67	1.5	1.5
68	0	0.5
69	0	0
70	0.9	0.9
71	0.8	0.9
72	0.9	0.8
73	0.9	0
74	1.2	1.1
75	0.4	0.4
76	0	0
77	6.9	6.9
78	0	1.8
79	1.8	0
80	0	0
Q1601		
1	0	0
2	0	0
3	0	4.9
4	0	0
5	0	4.9

<W/B>

MODE PIN NO.	REC	PLAY
IC1101		
1	0	2.4
2	2.4	2.4
3	2.4	0
4	0	0
5	2.4	0
6	2.4	2.3
7	1.5	0
8	4.8	4.8
Q1151		
E	0	0
C	4.3	4.3
B	-	-

<IR/TALLY/EJECT>

MODE PIN NO.	REC	PLAY
IC1801		
1	4.5	4.8
2	4	0
3	0	0
4	0	0
Q1801		
E	0	0
C	0	0
B	0	0

<JACK>

MODE PIN NO.	REC	PLAY
IC3751		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-

<PHY>

MODE PIN NO.	REC	PLAY
IC3101		
1	0.6	0
2	0	0
3	0	0
4	2.9	2.9
5	0.4	2.9
6	2.9	2.9
7	0.4	1.3
8	0	0
9	1.2	1.3
10	0	0
11	0.4	1.3
12	0.4	1.3
13	0.4	1.3
14	0.5	1.4
15	0.5	1.4
16	0.4	1.4
17	0	0
18	0	0
19	0.4	0.4
20	0.4	0.4
21	0	0
22	0.4	0.4
23	0	0
24	0	0.4
25	0	0
26	0	0
27	0	0
28	0	0
29	0	0
30	0	0
31	0	0
32	0	0
33	0	0
34	0	0
35	0.6	0
36	0.6	0
37	0	0
38	0	0
39	0.7	0
40	0.7	0
41	0	0
42	0	0
43	0	0
44	1.8	0
45	1.9	0
46	1.9	0
47	1.8	0
48	1.9	0
49	0	0
50	0	0
51	2.9	0.4
52	0	0
53	0	0
54	3	0
55	3	0
56	1.4	0
57	1.5	0
58	3	0
59	0	0
60	0.6	0
61	0	0
62	0.6	0
63	0	0
64	0	0

<MONITOR>

MODE PIN NO.	REC	PLAY
IC7201		
1	1	1
2	6.7	6.7
3	6.7	6.7
4	0	0
5	0	1.2
IC7210		
1	2.9	2.9
2	1.3	1.8
3	2.9	2.9
4	0	0
5	0	0
6	0	0
7	0	0
8	3	2.9
IC7300		
1	0	0
2	3	2.9
3	-	-
4	3	2.9
5	3	3
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	3	2.8
15	2.9	2.9
16	1.8	1.7
17	0.7	0.7
18	0	0
19	3	2.9
20	3	2.9
21	1.4	1.4
22	1.5	1.5
23	0	0
24	0	0
25	0	2.9
26	0	0
27	0	0
28	0	0
29	0	0
30	5.4	5.4
31	1.2	0
32	0	0
33	1.3	1.2
34	0	0
35	1.3	0.9
36	0	0
37	11.8	0
38	1.1	-
39	0	0
40	0	0
41	11.8	11.8
42	0	0
43	0	0
44	0	0
45	0	0
46	0	0
47	0	0
48	0	0
49	0	0
50	0	0
51	0	0
52	0	0
53	0	0
54	0	0
55	3	2.9
56	0	0
57	0	0
58	0	0
59	0	0
60	0	0
61	0	0
62	0	0
63	3	2.9
64	0	0
65	0	0
66	0	0
67	0	0
68	0	0
69	-	-
70	0	0
71	0	0
72	0	0
IC7400		
1	0	0
2	2.3	2.4
3	1.7	1.7
4	0.4	0.4
5	0.4	0.4
6	2.9	2.9
7	1.3	1.3
8	1.1	1.1
9	0	0
10	0	0
11	0	0
12	0	0
13	2.9	2.8
14	2.9	2.9
15	2.9	2.9
16	2	1.8
17	0.7	0.7
18	0	0
19	3	2.9
20	3	0
21	1.4	0
22	1.5	1.4
23	0	0
24	1.6	1.6
25	2.9	2.9
26	0	0
27	0	0
28	0	-
29	0	0
30	5.8	5.9
31	-	1.7
32	0	5.9
33	0	1.7
34	0	5.9
35	0	1.7
36	0	5.9
37	11.8	11.8
38	1	2.2
39	0	0
40	0	0
41	11.8	11.8
42	0	5.8
43	0	0
44	1.5	1.4
45	3	3
46	0	0
47	0	0
48	0	0
49	1.3	1.3
50	3	2.9
51	1.3	1.3
52	1.3	1.3
53	0	0
54	0	0
55	3	2.9
56	0	0
57	0	0
58	0	0
59	0	0
60	0	0
61	1.5	1.5
62	1.5	1.5
63	3	2.9
64	0	0
65	3	2.9
66	3	3
67	0	0
68	1.5	1.5
69	1.2	0
70	0	2.1
71	0	0
72	0	0
Q7201		
E	0	6.7
C	0	6.7
B	0	6
Q7202		
E	0	0
C	6.7	6.7
B	-0.5	0
Q7203		
E	0	0
C	0	0
B	3	3
Q7300		
E	11.8	11.8
C	0	0
B	11.8	11.8
Q7301		
E	0	0
C	0	0
B	0	2.9
Q7302		
E	0	1.2
C	0	0
B	0	0
Q7305		
E	0	0
C	0	11.8
B	0	5.4
Q7306		
E	0	6
C	0	0
B	0	0
Q7307		
E	0	0
C	0	11.8
B	0.7	0.6
Q7308		
E	0	5.4
C	0	0
B	0	4.9
Q7400		
E	0	0
B	0	0
C	11.8	11.8
Q7401		
E	0	0
C	0	11.8
B	0	0
Q7402		
E	0	1.2
C	0	0
B	0	0.6

<CCD/AD>

MODE PIN NO.	REC	PLAY
IC4101		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
IC4102		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
IC4201		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-

MODE PIN NO.	REC	PLAY
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-
33	-	-
34	-	-
35	-	-
36	-	-
37	-	-
38	-	-
39	-	-
40	-	-
41	-	-
42	-	-
43	-	-
44	-	-
45	-	-
46	-	-
47	-	-
48	-	-
IC4202		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
IC5001		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-
33	-	-
34	-	-

MODE PIN NO.	REC	PLAY
35	-	-
36	-	-
37	-	-
38	-	-
39	-	-
40	-	-
41	-	-
42	-	-
43	-	-
44	-	-
45	-	-
46	-	-
47	-	-
48	-	-
49	-	-
50	-	-
51	-	-
52	-	-
53	-	-
54	-	-
55	-	-
56	-	-
57	-	-
58	-	-
59	-	-
60	-	-
61	-	-
62	-	-
63	-	-
64	-	-
Q5201		
E	-	-
C	-	-
B	-	-

<PRE/REC>

MODE PIN NO.	REC	PLAY
IC3501		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-
33	-	-
34	-	-
35	-	-
36	-	-
37	-	-
38	-	-

MODE PIN NO.	REC	PLAY
39	-	-
40	-	-
41	-	-
42	-	-
43	-	-
44	-	-
45	-	-
46	-	-
47	-	-
48	-	-
49	-	-
50	-	-
51	-	-
52	-	-
53	-	-
54	-	-
55	-	-
56	-	-
57	-	-
58	-	-
59	-	-
60	-	-
61	-	-
62	-	-
63	-	-
64	-	-
Q3501		
E	-	-
C	-	-
B	-	-
Q3502		
E	-	-
C	-	-
B	-	-
Q3503		
E	-	-
C	-	-
B	-	-
Q3504		
E	-	-
C	-	-
B	-	-

<MPL>

MODE PIN NO.	REC	PLAY
IC5401		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-

<MONITOR BL>

MODE PIN NO.	EE
IC6701	
1	6.7
2	0
3	3
4	1.3
5	5.1
IC7501	
1	1
2	1
3	0
4	0
5	0
6	0.9
7	1.4
8	0
9	6.7
10	2.1
11	0
12	1.9
13	1.2
14	1.2
15	0
16	0
IC7502	
1	0
2	2.1
3	0
4	0
5	2.9
Q6701	
E	0
C	0
B	3
Q6702	
E	0
C	0
B	0
Q7501	
1	0
2	2.9
3	0
4	0
5	0
6	0
Q7502	
G	0.8
D	6.6
S	0
Q7504	
1	1.9
2	1.9
3	1.3
4	0
5	1.4
6	0.8

<DIAL>

MODE PIN NO.	EE
Q6701	
E	0
C	0
B	3
Q6702	
E	0
C	0
B	0

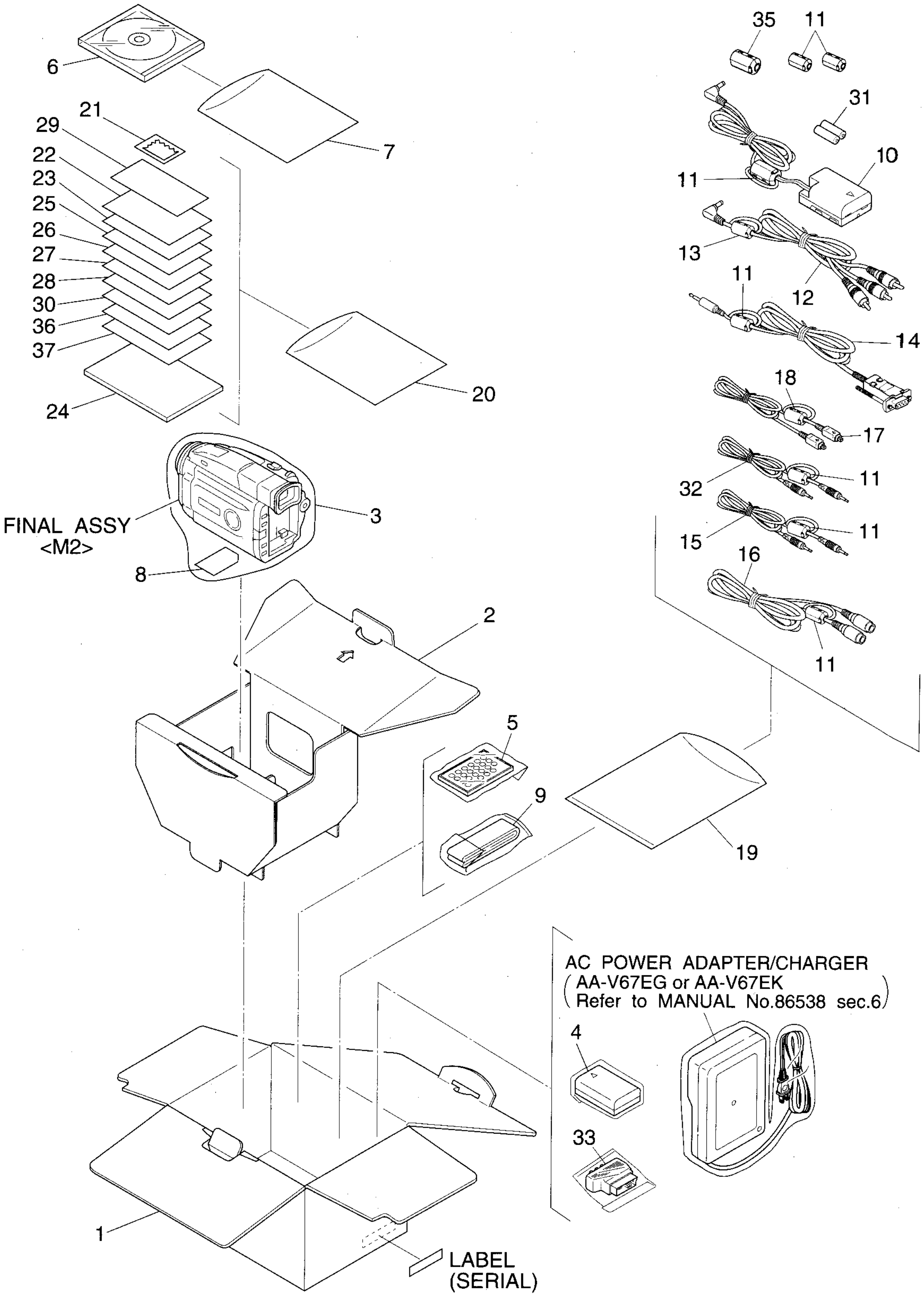
SECTION 5
PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

5.1 PACKING ASSEMBLY <M1>

The instruction manual to be provided with this product will differ according to the destination.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24
20
FINAL ASSY
<M2>
3
8
2
5
9
19
1
LABEL
(SERIAL)
35
11
31
10
11
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12
14
18
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32
11
15
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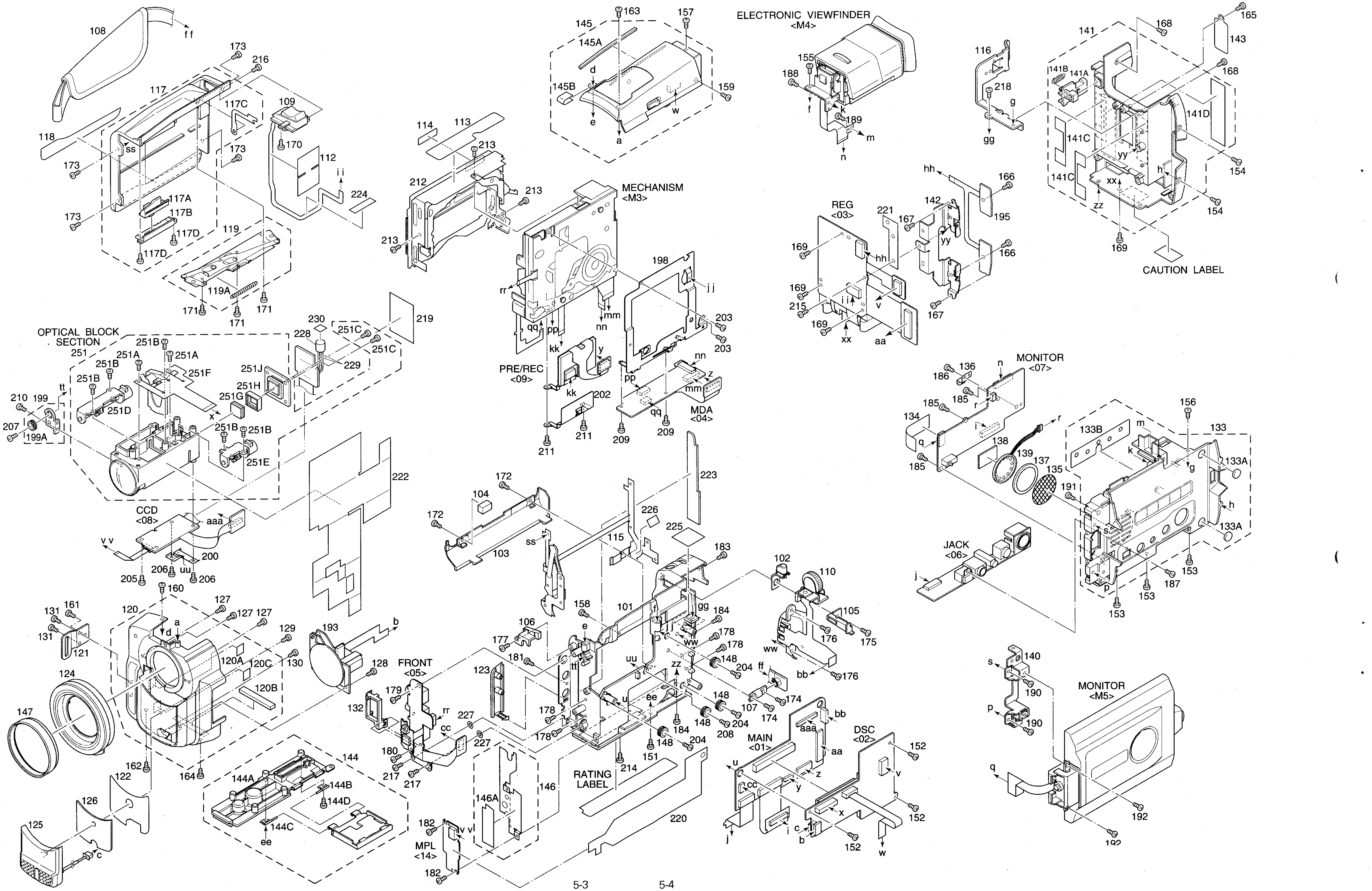
16
11
AC POWER ADAPTER/CHARGER
(AA-V67EG or AA-V67EK
Refer to MANUAL No.86538 sec.6)
4
33

5.2 FINAL ASSEMBLY <M2>



ELECTRONIC VIEWFINDER <M4>
MECHANISM <M3>
REG <03>
CAUTION LABEL
OPTICAL BLOCK SECTION
PRE/REC <09>
MDA <04>
MONITOR <07>
CCD <08>
JACK <06>
FRONT <05>
RATING LABEL
MAIN <01>
DSC <02>
MPL <14>
MONITOR <M5>
101
102
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117A
117B
117C
117D
118
119
119A
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120A
120B
120C
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cc
ee
ff
gg
hh
ii
jj
kk
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pp
qq
rr
ss
tt
uu
vv
ww
xx
yy
zz

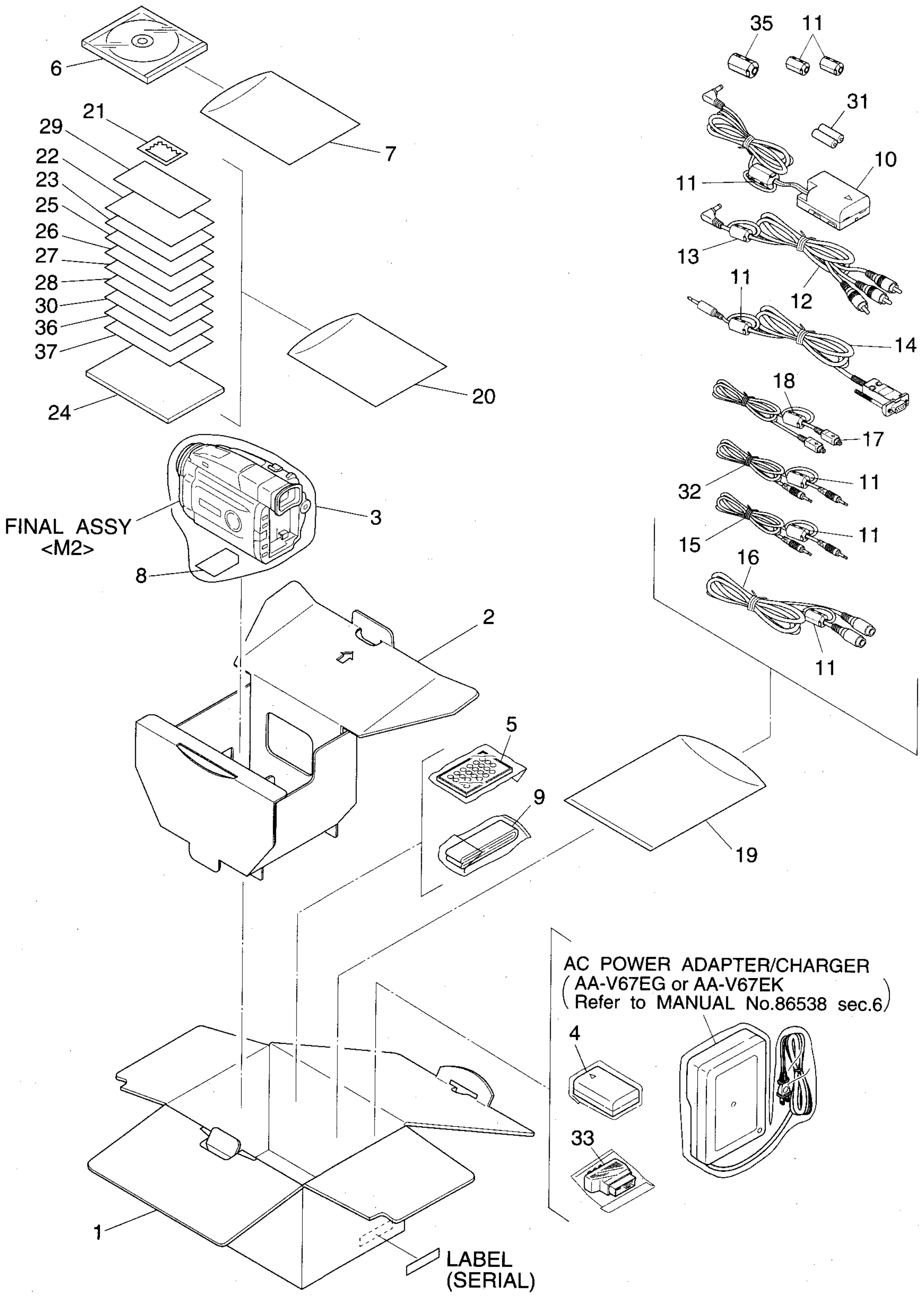
SECTION 5
PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

5.1 PACKING ASSEMBLY <M1>

The instruction manual to be provided with this product will differ according to the destination.



＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊

PACKING ASSEMBLY <M1>

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	1	LY31642-003A	PACKING CASE,C
		LY31642-004A	PACKING CASE,A
		LY31650-005A	PACKING CASE,B
		LY31650-004A	PACKING CASE,D
	2	LY31646-001A	CUSHION
	3	LY30023-008A	POLY BAG
⚠	4	LY30780-002A	BATTERY PACK
	5	LY20543-002A	REMOTE CONTROL UNIT
	6	LY31133-010A	CD ROM ASSY
	7	LY30023-010A	POLY BAG
	8	QAM0230-002	MULTIMEDIA CARD
	9	LY20186-001A	SHOULDER STRAP
	10	LY31057-001A	DC CORD
	11	QQR0491-002	CORE FILTER,X7
	12	QAM0212-001	CABLE ASSY,AUDIO/VIDEO CABLE
	13	QQR0918-002	CORE FILTER
	14	QAM0084-001	PC CONNECTION CABLE
	15	QAM0214-001	RM CABLE,EDITING CABLE
	16	QAM0004-004	S CABLE,S-VIDEO CABLE
	17	QAM0100-002	DV CABLE,C,D
	18	QQR0918-002	CORE FILTER,C,D
	19	QPGA017-03005	POLY BAG
	20	QPA02003506	POLY BAG,A,C
		YQM30061-3	POLY BAG,B,D
	21	YQ43558	CLEANING CLOTH
	22	YU30843-7-1	SOFT WARE PERM.,B,D
	23	BT-54008-2	GUARANTY CARD,B,D
		BT-54013-1	WARRANTY CARD,A,C
⚠	24	LYT0512-001A	IB(EN)
⚠		LYT0512-002A	IB(GE),A,C
⚠		LYT0512-003A	IB(FR),A,C
⚠		LYT0512-004A	IB(DU),A,C
⚠		LYT0512-005A	IB(SP),A,C
⚠		LYT0512-006A	IB(IT),A,C
⚠		LYT0512-007A	IB(DA),A,C
⚠		LYT0512-008A	IB(FI),A,C
⚠		LYT0512-009A	IB(SW),A,C
⚠		LYT0512-010A	IB(NO),A,C
⚠		LYT0512-011A	IB(RU),A,C
⚠		LYT0512-012A	IB(CZ),A,C
⚠		LYT0512-013A	IB(PO),A,C
⚠		LYT0512-014A	IB(HU),A,C
⚠	25	LYT0513-001A	IB(SOFT.SETUP),A,C
⚠		LYT0515-001A	IB(SOFT.SETUP),B,D
⚠	26	LYT0509-002A	IB(CAPTURE.EN)
⚠	27	LYT0509-003A	IB(PICNAVI.EN)
	28	LYT0378-003A	SHEET(AGREMENT)
	29	YU30878	REGIST. CARD,B,D
⚠	30	LYT0512-015A	IB(PRINTER.EN)
⚠		LYT0512-016A	IB(PRINTER.GE),A,C
⚠		LYT0512-017A	IB(PRINTER.FR),A,C
⚠		LYT0512-018A	IB(PRINTER.DU),A,C
⚠		LYT0512-019A	IB(PRINTER.SP),A,C
⚠		LYT0512-020A	IB(PRINTER.IT),A,C
⚠		LYT0512-021A	IB(PRINTER.DA),A,C
⚠		LYT0512-022A	IB(PRINTER.FI),A,C
⚠		LYT0512-023A	IB(PRINTER.SW),A,C
⚠		LYT0512-024A	IB(PRINTER.NO),A,C
⚠		LYT0512-025A	IB(PRINTER.RU),A,C
⚠		LYT0512-026A	IB(PRINTER.CZ),A,C
⚠		LYT0512-027A	IB(PRINTER.PO),A,C
⚠		LYT0512-028A	IB(PRINTER.HU),A,C
	31	–	BATTERY,R03(AAA),X2
	32	QAM0129-001	JLIP CABLE
	33	PEMC1000-01-02	CONNECTOR,CABLE ADAPTER
	35	QQR0918-002	CORE FILTER(DV CABLE),A,B
	36	LYT0162-019A	ACC.LEAFLET
⚠	37	YU30364	SAFETY SHEET

MODEL	MARK
GR-DVL9700EG	A
GR-DVL9700EK	B
GR-DVL9800EG	C
GR-DVL9800EK	D

• INSTRUCTIONS

EN .... ENGLISH
GE ...... GERMANY
FR .... FRENCH
DU ...... DUTCH
SP .... SPANISH
IT .... ITALIAN
DA .... DANISH
FI .... FINNISH
SW ...... SWEDISH
NO ...... NORWEGIAN
RU ...... RUSSIAN
CZ .... CZECH
PO ...... POLISH
HU ...... HUNGARIAN

****

FINAL ASSEMBLY <M2>

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION
⚠	101	LY10192-002A	LOWER CASE
	102	LY31301-001A	BUTTON(PHOTO)
	103	LY31302-001A	PAD(L.CASE)
	104	LY30029-011A	SPACER(A)
	105	LY31435-001B	LOCK GUIDE(1)
	106	LY31436-001B	LOCK GUIDE(2)
	107	LY42086-001B	SHAFT(G.BELT)
	108	LY20513-002A	GRIP BELT,C,D
		LY20513-003A	GRIP BELT,A,B
	109	LY20486-001B	ZOOM UNIT
	110	LY20487-003A	POWER UNIT
	112	LY42124-001A	SHEET(C.COVER)
	113	LY40698-002A	LABEL(HOUSING)
	114	LY40699-002A	LABEL(PUSH)
	115	LY31306-001B	ARM ASSY
	116	LY31310-001B	HOOK
	117	LY31311-002A	CASS.COVER ASSY
	117A	LY31313-001A	KNOB(LOCK)
	117B	LY31314-001A	HOLDER(KNOB)
	117C	LY42118-001A	SHEET(EARTH)
	117D	LY30018-087A	SPECIAL SCREW,X2
	118	LY31312-001A	PAD(CASS)
	119	LY31023-002A	LOCK ASSY
	119A	LY30001-020A	TENSION SPRING
	120	LY20488-001A	FRONT COVER ASSY,C,D
		LY20488-003A	FRONT COVER ASSY,A,B
	120A	LY30029-007A	SPACER(A)
	120B	LY30029-008A	SPACER(A)
	120C	LY30016-0Z9A	SPACER-A
	121	LY41727-001A	HOOK(G.BELT)
	122	LY42140-001A	BKT(MIC)
	123	LY31318-001A	JACK COVER
	124	LY31442-001B	HOOD ASSY
	125	LY31320-003A	MIC UNIT
	126	LY42114-001A	SHEET(MIC)
	127	LY30018-060A	SPECIAL SCREW,X3
	128	LY30018-060A	SPECIAL SCREW
	129	LY30018-063A	SPECIAL SCREW
	130	LY30018-060A	SPECIAL SCREW
	131	LY30018-065A	SPECIAL SCREW,X2
	132	LY31359-001A	HOLDER(IR)
⚠	133	LY20489-004A	UPPER CASE ASSY,A,B
⚠		LY20489-005A	UPPER CASE ASSY,C,D
	133A	LY40664-001A	SPACER,X2
	133B	LY42128-001B	SHEET(BUTTON)
	134	LY42125-001A	SHEET(MONI.FPC)
	135	LY41559-001A	SHEET(SPK)
	136	LY41795-001A	BKT(JACK)
	137	LY40301-001A	SPACER(SPK)
	138	LY30029-010A	SPACER(A)
	139	QAS0042-001	SPEAKER
	140	LY31377-001B	BKT(HINGE)
	141	LY20490-003A	REAR CASE ASSY
	141A	LY31325-001A	KNOB(RELEASE)
	141B	LY30001-018A	TENSION SPRING
	141C	LY41909-001A	SPACER,X2
	141D	LY41690-002A	SHEET(REAR)
	142	LY31324-001A	BKT(BUTTON)
	143	LY41691-001A	COVER(JIG)
	144	LY20491-001A	BASE ASSY,C,D
		LY20491-002A	BASE ASSY,A,B
	144A	LY20492-001A	BASE,C,D
		LY20492-002A	BASE,A,B
	144B	LY30603-001A	HINGE ASSY
	144C	LY30603-002A	HINGE ASSY
	144D	LY30018-060A	SPECIAL SCREW
⚠	145	LY20571-002A	TOP(ST)ASSY,C,D
⚠		LY20571-003A	TOP(ST)ASSY,A,B
	145A	LY30029-002A	SPACER(A)
	145B	LY42214-001A	S.SHEET(REG)
	146	LY42158-001A	BKT(L.CASE)ASSY
	146A	LY42156-001A	SPASER(SHIELD)
	147	LY31636-002A	MC PROTECTOR
	148	LY41675-001B	RUBBER,X4
	151	LY30018-0A3A	SPECIAL SCREW
	152	LY30018-017A	SPECIAL SCREW,X3
	153	LY30018-093A	SPECIAL SCREW,X3
	154	LY30018-037A	SPECIAL SCREW,X2
	155	LY30018-0A1A	SPECIAL SCREW
	156	LY30018-0A2A	SPECIAL SCREW
	157	LY30018-017A	SPECIAL SCREW
	158	LY30018-022A	SPECIAL SCREW
	159	LY30018-0A1A	SPECIAL SCREW
	160	LY30018-044A	SPECIAL SCREW
	161	LY30018-044A	SPECIAL SCREW
	162	LY30018-044A	SPECIAL SCREW
	163	LY30018-037A	SPECIAL SCREW
	164	LY30018-0A1A	SPECIAL SCREW
	165	LY30018-021A	SPECIAL SCREW
	166	LY30018-070A	SPECIAL SCREW,X2
	167	QYSPSGT1735D	SCREW,X2
	168	LY30018-065A	SPECIAL SCREW,X2
	169	LY30018-063A	SPECIAL SCREW,X4
	170	LY30018-037A	SPECIAL SCREW
	171	LY30018-037A	SPECIAL SCREW,X3
	172	LY30018-031A	SPECIAL SCREW,X2
	173	LY30018-031A	SPECIAL SCREW,X4
	174	LY30018-099A	SPECIAL SCREW,X2
	175	LY30018-094A	SPECIAL SCREW
	176	LY30018-044A	SPECIAL SCREW,X2
	177	LY30018-044A	SPECIAL SCREW
	178	LY30018-038A	SPECIAL SCREW,X4
	179	LY30018-0A2A	SPECIAL SCREW
	180	LY30018-0A4A	SPECIAL SCREW
	181	LY30018-063A	SPECIAL SCREW
	182	LY42424-001A	SPECIAL SCREW,X2
	183	LY30018-065A	SPECIAL SCREW
	184	LY30018-037A	SPECIAL SCREW,X2
	185	QYSPSGT1750Z	SCREW,X3
	186	QYSPSGT1750Z	SCREW
	187	QYSPSPT1730R	SCREW
	188	QYSPSGT1750Z	SCREW
	189	QYSPSGT1750Z	SCREW
	190	LY30018-034A	SPECIAL SCREW,X2
	191	LY30018-028A	SPECIAL SCREW
	192	LY30018-098A	SPECIAL SCREW,X2
	193	LY20429-001H	L.SHUTTER ASSY
	195	LY31365-001A	FPC ASSY(D.OPE)
	198	LY20494-001A	BKT(MECHA)
	199	LY42123-001A	OP HOLDER ASSY
	199A	LY41675-001B	RUBBER
	200	LY31340-001A	BKT(OP.S)
	202	LY31342-001A	SHIELD COVER(PR)
	203	LY30019-003A	SPECIAL SCREW,X2
	204	LY30019-019A	SPECIAL SCREW,X3
	205	LY30018-010A	SPECIAL SCREW
	206	LY30018-010A	SPECIAL SCREW,X2
	207	LY30019-019A	SPECIAL SCREW
	208	LY30019-020A	SPECIAL SCREW
	209	LY30018-022A	SPECIAL SCREW,X2
	210	LY30018-010A	SPECIAL SCREW
	211	YQ43893-4	MINI SCREW,X2
	212	LY30483-001Q	CASSETTE HOUSING ASSY
	213	YQ43893-4	MINI SCREW,X3
	214	LY30018-037A	SPECIAL SCREW
	215	LY30018-059A	SPECIAL SCREW
	216	LY30018-063A	SPECIAL SCREW
	217	QYSPSPT1730Z	SCREW,X2
	218	LY30018-0A2A	SPECIAL SCREW
	219	LY30029-016A	SPACER(A)
	220	LY42205-001A	S.SHEET(VCO)
	221	LY42224-001A	S.SHEET(REAR)
	222	LY42231-001B	S.SHEET(OP)
	223	LY42154-001A	SPASER(L.CASE)
	224	LY30029-014A	SPACER(A)
	225	LY30016-0Z8A	SPACER-A
	226	LY42243-001A	SHEET(ARM)
	227	LY30017-006A	SPACER-B,X2
	228	QEXA1DM-226	OS E CAPACITOR(C5218)
	229	QWTE104-015	SHRINK TUBE,X2
	230	LY30029-025A	SPACER(A)

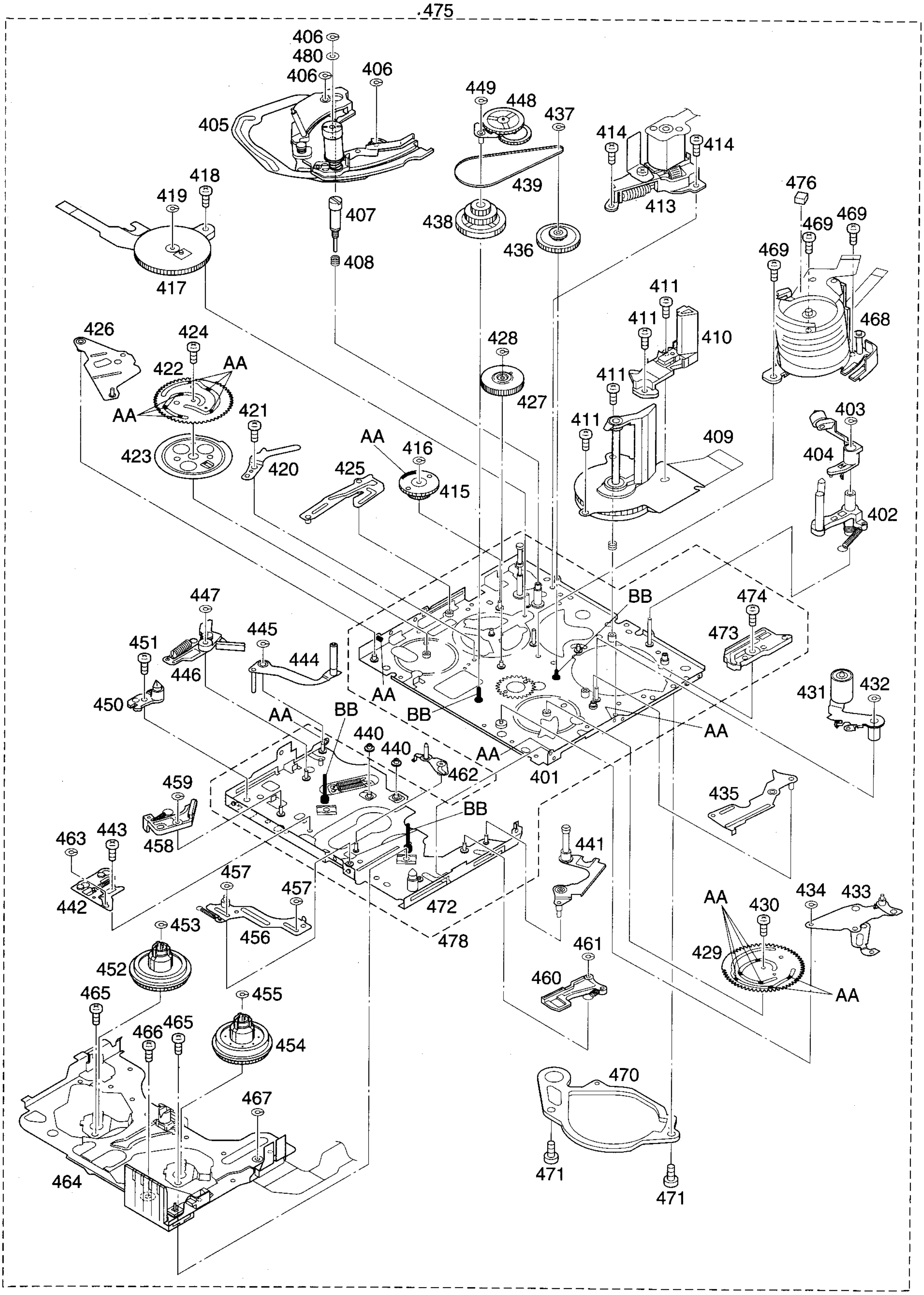
– OPTICAL BLOCK SECTION –

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	251	LYH20110-003A	OPTICAL BLOCK ASSY
	251A	LY30727-001A	SCREW,X2
	251B	LY30727-002A	SCREW,X5
	251C	QYSPSGU1750Z	SCREW,X2
	251D	LY30842-001A	ZOOM MOTOR
	251E	LY30843-001A	FOCUS MOTOR
	251F	LY31271-001A	IRIS MOTOR UNIT
	251G	LY41822-002A	OPTICAL LPF
	251H	YQ32122	SPACER RUBBER
	251J	LYH40053-003A	CCD BASE ASSY

5.3 MECHANISM ASSEMBLY <M3>

BEWARE OF BOGUS PARTS

Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.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Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-P	AA
Oil	YTU94027	BB

NOTE: The section marked in AA and BB indicate lubrication and greasing areas.

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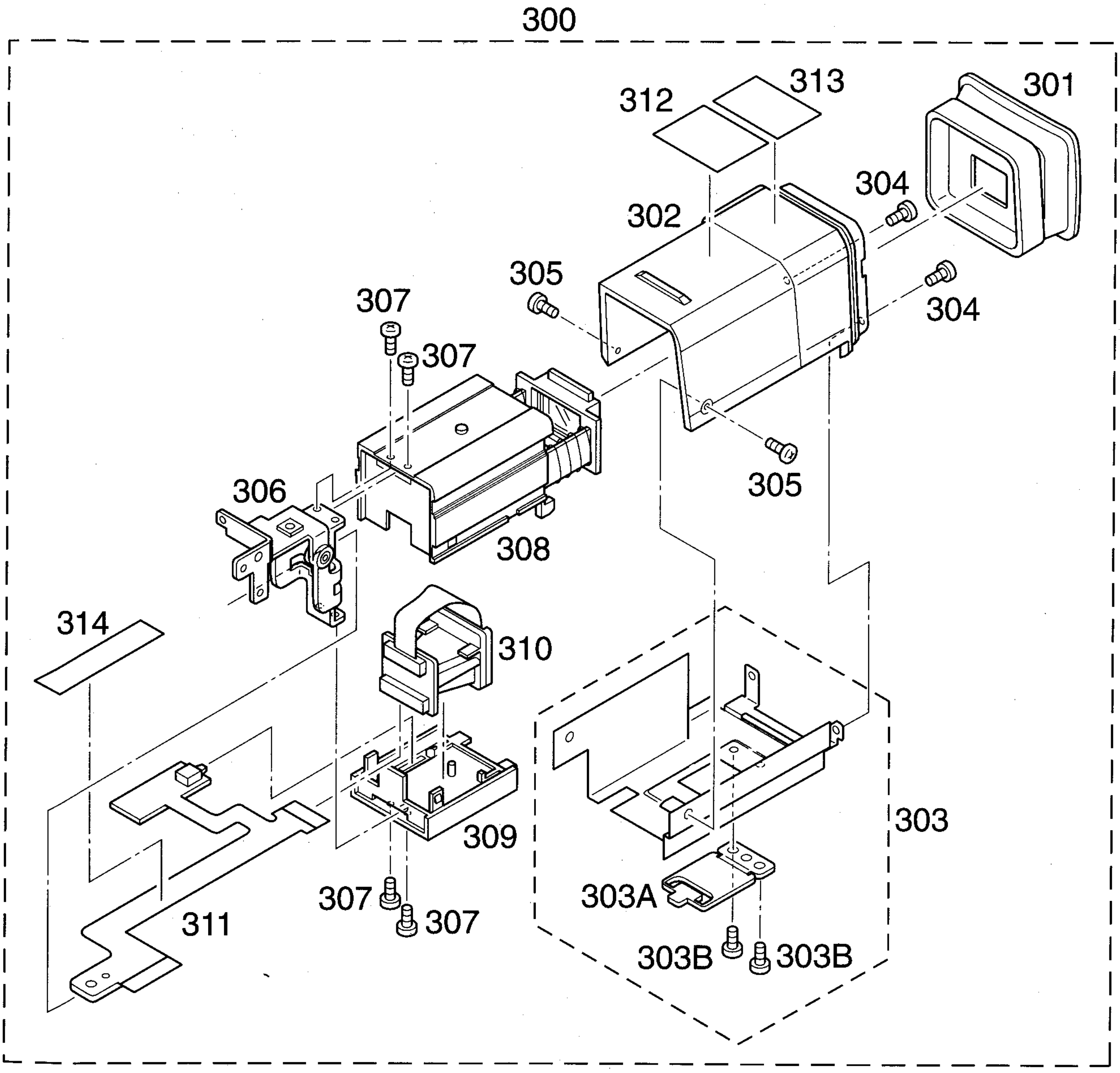
MECHANISM ASSEMBLY <M3>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION
401	LY10077-001L	MAIN DECK ASSY
402	LY30436-001F	SLANT P.ARM ASSY
403	YQ44246	SLIT WASHER
404	LY30438-001B	CLEANER ARM ASSY
405	LY10080-001V	RAIL ASSY
406	YQ44246	SLIT WASHER,X3
407	LY40353-001D	GUIDE ROLLER(S)ASSY
408	LY30002-006C	COMPRES. SPRING
409	QAR0026-001	CAPSTAN MOTOR
410	LY30504-001C	CATCHER(T)ASSY
411	YQ43893	MINI SCREW,X4
413	LY30448-001D	MOTOR BKT ASSY
414	YQ43893	MINI SCREW,X2
415	LY30449-001C	WORM WHEEL
416	YQ44246	SLIT WASHER
417	LY40496-001C	ROTARY ENCODER
418	YQ43893	MINI SCREW
419	YQ44246	SLIT WASHER
420	LY40614-001B	GEAR HOLDER
421	YQ43893-6	MINI SCREW
422	LY30450-001C	MAIN CAM
423	LY30840-001A	BRAKE CTL PLATE
424	YQ43893	MINI SCREW
425	LY40373-001C	TC LEVER ASSY
426	LY30452-001E	SLIDE LEVER ASSY
427	LY30454-001A	CONNECT GEAR
428	YQ44246	SLIT WASHER
429	LY30455-001B	SUB CAM
430	YQ43893	MINI SCREW
431	LY30456-001F	PINCHROLLER ARM ASSY
432	YQ44246	SLIT WASHER
433	LY30459-001A	CHARGE ARM ASSY
434	YQ44246	SLIT WASHER
435	LY40387-001B	BC LEVER ASSY
436	LY40389-001D	R.D.PULLEY ASSY
437	YQ44246-2	SLIT WASHER
438	LY40391-001G	CENTER GEAR ASSY
439	LY40396-001A	TIMING BELT
440	LY40413-001A	COLLAR,X2
441	LY30468-001E	GUIDE ARM ASSY
442	LY30618-001C	SLIDE GUIDE PLATE ASSY
443	YQ43893-2	MINI SCREW
444	LY40420-001J	TENSION ARM ASSY
445	YQ44246	SLIT WASHER
446	LY30471-001D	PAD ARM ASSY
447	YQ44246	SLIT WASHER
448	LY40432-001H	IDLER ARM ASSY
449	YQ44246-2	SLIT WASHER
450	LY30476-001A	GUIDE PIN(S)
451	YQ43893	MINI SCREW
452	LY40441-001B	REEL DISK(SUPPLY)ASSY
453	YQ44246	SLIT WASHER
454	LY40443-001B	REEL DISK(TAKE-UP)ASSY
455	YQ44246	SLIT WASHER
456	LY30477-001F	CTL PLATE ASSY
457	YQ44246	SLIT WASHER,X2
458	LY40444-001E	LOADING BRAKE ASSY
459	YQ44246	SLIT WASHER
460	LY40452-001C	SUB BRAKE ASSY
461	YQ44246	SLIT WASHER
462	LY30479-001B	RELEASE GUIDE ASSY
463	YQ44246	SLIT WASHER
464	LY20146-001H	REEL COVER ASSY
465	YQ43893-4	MINI SCREW,X2
466	YQ43893	MINI SCREW
467	YQ44246	SLIT WASHER
468	YDV2086I	DRUM ASSY
469	YQ43893	MINI SCREW,X3
470	LY20138-001C	PWB HOLDER
471	YQ43893	MINI SCREW,X2
472	LY10082-001K	SLIDE DECK ASSY
473	LY30462-001B	LOADING GUIDE
474	YQ43893	MINI SCREW
475	YMA0025H	MECHA(A) ASS'Y
476	LY30016-0M1A	SPACER-A
478	LY30496-001R	DECK ASSY
480	LY41573-001A	WASHER

5.4 ELECTRONIC VIEWFINDER ASSEMBLY <M4>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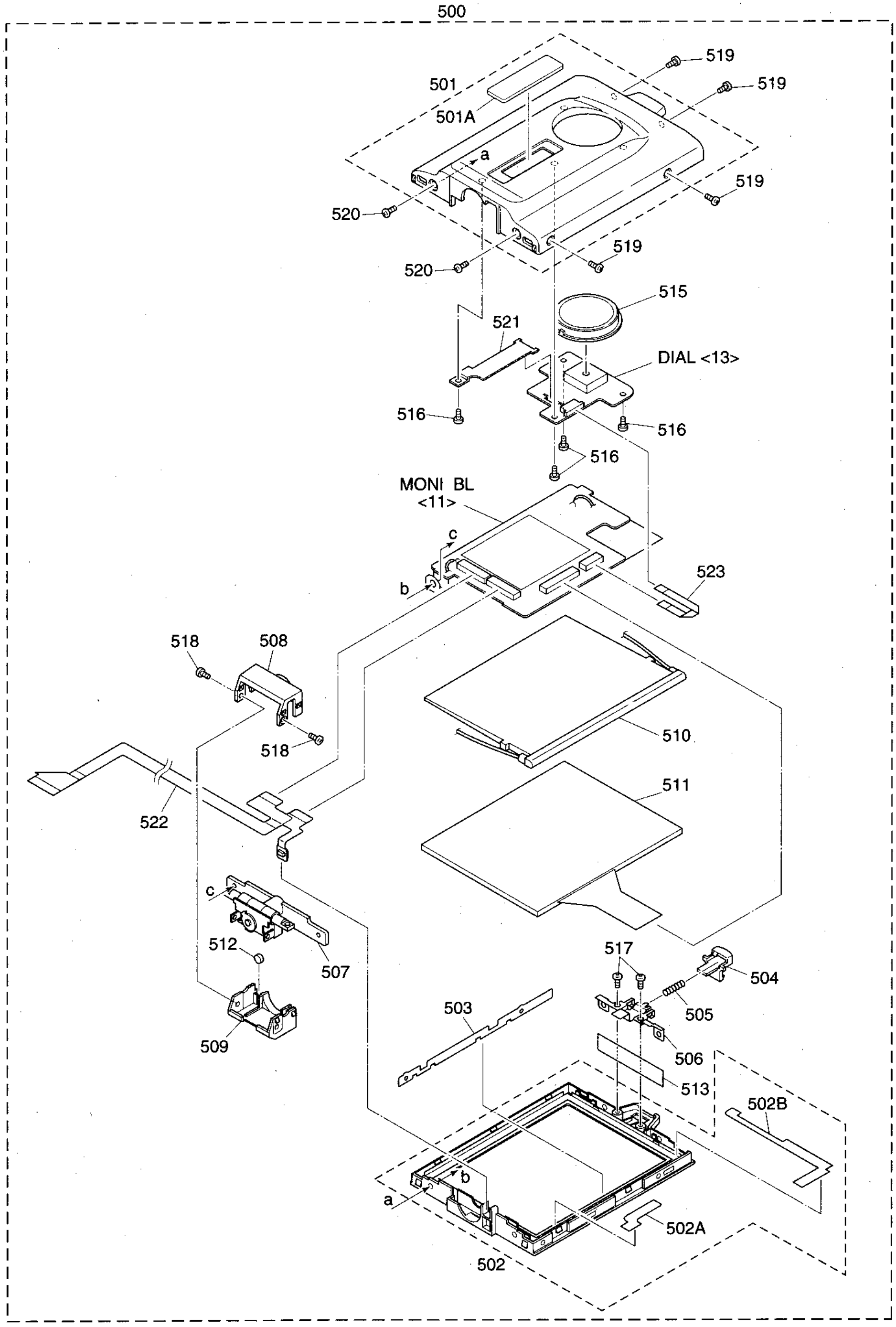
ELECTRONIC VIEWFINDER ASSEMBLY <M4>

⚠ REF No.	PART No.	PART NAME, DESCRIPTION
300	LY20495-004A	VF UNIT,C,D
	LY20495-005A	VF UNIT,A,B
301	PTY20495-001	EYE CAP
302	PTY20495-014	VF CASE(TOP)
303	PTY20495-021	VF CASE(BOTTOM)
303A	PTY20495-022	CAP
303B	PTY20495-084	SCREW,X2

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION
304	PTY20495-082	SCREW,X2
305	PTY20495-082	SCREW,X2
306	LY31355-001C	VF HINGE ASSY
307	LY30018-067B	SPECIAL SCREW,X4
308	PTY20495-031	LCD CASE ASSY(TOP)
309	PTY20495-041	LCD CASE ASSY(BOTTOM)
310	PTY20495-051	LCD ASSY
311	LY31363-002A	FPC ASSY(C.VF)
312	LY41701-002A	SHEET(CAUTION)1
313	LY42163-002B	SHEET(CAUTION)2
314	LY30029-006A	SPACER(A)

5.5 MONITOR ASSEMBLY <M5>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MONITOR ASSEMBLY <M5>

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION
⚠	500	LYH20116-002B	MONITOR ASSY,C,D
⚠		LYH20116-004B	MONITOR ASSY,A,B
⚠	501	LY31345-002A	MONITOR COVER ASSY,C,D
⚠		LY31345-003A	MONITOR COVER ASSY,A,B
	501A	LY31346-002A	WINDOW,C,D
		LY31346-003A	WINDOW,A,B
	502	LY31347-001A	MONITOR CASE ASSY
	502A	LY42088-001A	SHEET(1)
	502B	LY42089-001A	SHEET(2)
	503	LY31348-001A	BKT(M.CASE)
	504	LY31349-001B	BUTTON(LOCK)
	505	LY30002-043A	COMPRES. SPRING
	506	LY31350-001A	BKT(BUTTON)
	507	LY31236-002A	HINGE ASSY
	508	LY31351-001A	HINGE COVER(1),C,D
		LY31351-002A	HINGE COVER(1),A,B
	509	LY31352-001A	HINGE COVER(2)
	510	QLL0069-002	BACK LIGHT
	511	QLD0115-001	LCD MODULE
	512	LY41830-001A	MAGNET
	513	LY30029-001A	SPACER(A)
	515	LY31354-002A	KNOB(REC MODE)
	516	LY30018-063A	SPECIAL SCREW,X4
	517	LY30018-063A	SPECIAL SCREW,X2
	518	LY30018-058A	SPECIAL SCREW,X2
	519	QYSPSPT1730R	SCREW,X4
	520	LY30018-028A	SPECIAL SCREW,X2
	521	LY42126-001B	BACK LIGHT LED
	522	LY31362-001A	FPC ASSY(MONI)
	523	WJT0018-001A	E-CARD WIRE

5.6 ELECTRICAL PARTS LIST

MODEL	MARK	MODEL	MARK
GR-DVL9700EG	A	GR-DVL9800EG	C
GR-DVL9700EK	B	GR-DVL9800EK	D

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MAIN BOARD ASSEMBLY <01>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION
PW	YB10279C-02	MAIN BOARD ASSY,C,D
	YB10279D-02	MAIN BOARD ASSY,A,B
IC1001	YQ44845A	CSP IC ASSY
IC1002	UPD6466GS-543-X	IC(MICRO C ROM)
IC1003	NM25C160LZEM8	IC
	or AT25160N-10SC-X	IC
IC1004	RS5C314	IC
IC1005	TC7W08FK	IC
IC1006	TC7W04FK	IC
IC1007	TC7W32FK	IC
IC1008	TC7W66FK	IC
IC1009	TC7W08FK	IC
IC1301	SN74LV08APW	IC
IC1302	MAX3221CAE	IC
IC1303	SN74LV02APW	IC
IC1401	YQ44846A	CSP IC ASSY
	or MN1030F14KYB-71	IC(MICRO C ROM)
	or MN1030F04KYB-71	IC(MICRO C ROM)
	or MN103004KRE	IC(MICRO C ROM)
IC1402	TC7W14FK	IC
IC1403	TC7W66FK	IC
IC2101	AK4550VT	IC
IC3001	JCY0106-2	IC
IC3002	YQ44835A	CSP IC ASSY
	or M51V18165D-50LS	IC
IC3004	TC7SL04FU	IC
IC3005	SN74AHC1G04K	IC
IC3201	JCY0107-2	IC
IC3202	TC7SH00FU	IC(DIGITAL)
IC3203	MM1385UN	IC
IC3301	JCY0108	IC
IC3401	M62366GP	IC
IC3701	NJM2538V	IC
IC3702	MM1385HN	IC
IC3801	JCP8019	IC,C,D
IC3851	NJM2535V	IC,C,D
IC4301	YQ44827A	IC
IC4302	MM1385PN	IC
IC4303	TC7SH08FU	IC(DIGITAL),C,D
IC4304	TC7WH123FK	IC(DIGITAL),A,B
IC4305	TC7W04FK	IC(DIGITAL),A,B
IC6001	S-80842ANNP-W	IC
IC6002	S-81233SG-QF-X	IC
IC6003	S-81330HG-KB-X	IC
IC6004	S-80826ANNP-W	IC
Q1301	UMX2N	PAIR TRANSISTOR
Q1401	DTA114EE	TRANSISTOR
	or RN2102	TRANSISTOR
Q1402	UMC3N	TRANSISTOR
Q1403	UMC3N	TRANSISTOR
Q1405	DTC143EE	TRANSISTOR
	or RN1101	TRANSISTOR
	or PDTC143EE	TRANSISTOR
Q1406	2SC4617/QR/-X	TRANSISTOR
Q1407	DTC124EE	TRANSISTOR
	or RN1103	TRANSISTOR
	or PDTC124EE	TRANSISTOR

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
Q1408	DTC144EE	TRANSISTOR	
	or RN1104	TRANSISTOR	
	or PDTC144EE	TRANSISTOR	
Q3551	2SA1577/QR/-X	TRANSISTOR	
Q3552	DTC144EE	TRANSISTOR	
	or RN1104	TRANSISTOR	
Q3701	DTC144EE	TRANSISTOR	
	or RN1104	TRANSISTOR	
Q3705	2SC4617/RS/-X	TRANSISTOR,C,D	
Q3706	DTC144EE	TRANSISTOR,C,D	
	or RN1104	TRANSISTOR,C,D	
Q3731	2SA1774/RS/-X	TRANSISTOR	
Q3801	HN1B04FU/YG/-X	PAIR TRANSISTOR,C,D	
Q3802	HN1B04FU/YG/-X	PAIR TRANSISTOR,C,D	
Q3851	UMC4N	TRANSISTOR,C,D	
Q3852	HN1B04FU/YG/-X	PAIR TRANSISTOR,C,D	
Q3853	2SC4617/RS/-X	TRANSISTOR,C,D	
Q3854	HN1B04FU/YG/-X	PAIR TRANSISTOR,C,D	
Q3855	2SC4617/RS/-X	TRANSISTOR,C,D	
Q3856	HN2C01FU/YG/-X	PAIR TRANSISTOR,C,D	
Q3857	HN1B04FU/YG/-X	PAIR TRANSISTOR,C,D	
Q3858	DTC114EE	TRANSISTOR,C,D	
Q4351	2SA1774/RS/-X	TRANSISTOR	
Q4352	HN2A01FU/YG/-X	PAIR TRANSISTOR	
Q4353	HN2A01FU/YG/-X	PAIR TRANSISTOR	
Q4354	2SA1774/RS/-X	TRANSISTOR	
Q6001	2SJ501	MOS FET	
Q6002	2SK3019	MOS FET	
	or 2SK1830	MOS FET	
Q6003	2SJ347	MOS FET	
Q6004	2SK3019	MOS FET	
	or 2SK1830	MOS FET	
Q6005	DTC144EE	TRANSISTOR	
	or RN1104	TRANSISTOR	
Q6006	2SJ501	MOS FET	
Q6007	RN47A3	TRANSISTOR	
D1002	SB007W03Q	SB DIODE	
D1303	1SS383	SB DIODE	
D1401	DA221	DIODE	
⚠ D6001	RB706D-40-X	SB DIODE	
D6002	RB715F	SB DIODE	
R1001	NRSA6AJ-391W	MG RESISTOR	390Ω, 1/16W
R1002	NRSA6AJ-104W	MG RESISTOR	100kΩ, 1/16W
R1003	NRSA6AJ-104W	MG RESISTOR	100kΩ, 1/16W
R1004	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
R1005	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R1006	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R1007	NRSA6AJ-473W	MG RESISTOR	47kΩ, 1/16W
R1009	NRSA6AJ-393W	MG RESISTOR	39kΩ, 1/16W
R1010	NRSA6AJ-473W	MG RESISTOR	47kΩ, 1/16W
R1011	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R1012	NRSA6AJ-223W	MG RESISTOR	22kΩ, 1/16W
R1013	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R1014	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R1015	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R1016	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R1017	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
R1018	NRSA6AJ-822W	MG RESISTOR	8.2kΩ, 1/16W
R1019	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R1020	NRSA6AJ-123W	MG RESISTOR	12kΩ, 1/16W
R1021	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R1023	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R1024	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R1025	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R1031	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R1032	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R1033	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R1034	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R1035	NRSA6AJ-104W	MG RESISTOR	100kΩ,1/16W
R1037	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R1038	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R1040	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R1041	NRSA6AJ-104W	MG RESISTOR	100kΩ,1/16W
R1042	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
R1043	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R1044	NRSA6AJ-472W	MG RESISTOR	4.7kΩ,1/16W
R1045	NRSA6AJ-222W	MG RESISTOR	2.2kΩ,1/16W
R1046	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R1047	NRVA6AD-473W	CMF RESISTOR	47kΩ,1/16W
R1048	NRSA6AJ-104W	MG RESISTOR	100kΩ,1/16W
R1049	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
R1050	NRSA6AJ-104W	MG RESISTOR	100kΩ,1/16W
R1051	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
R1052	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R1053	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R1055	NRSA6AJ-101W	MG RESISTOR	100Ω,1/16W
R1056	NRSA6AJ-101W	MG RESISTOR	100Ω,1/16W
R1058	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R1061	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
R1062	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
R1063	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
R1064	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
R1065	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
R1066	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
R1068	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
R1069	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
R1070	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
R1071	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
R1301	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R1302	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R1303	NRSA6AJ-223W	MG RESISTOR	22kΩ,1/16W
R1307	NRSA6AJ-472W	MG RESISTOR	4.7kΩ,1/16W
R1401	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R1402	NRSA6AJ-222W	MG RESISTOR	2.2kΩ,1/16W
R1403	NRSA6AJ-222W	MG RESISTOR	2.2kΩ,1/16W
R1404	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R1408	NRSA6AJ-472W	MG RESISTOR	4.7kΩ,1/16W
R1409	NRSA6AJ-331W	MG RESISTOR	330Ω,1/16W
R1413	NRSA6AJ-331W	MG RESISTOR	330Ω,1/16W
R1414	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R1415	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R1416	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R1417	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R1418	NRSA6AJ-221W	MG RESISTOR	220Ω,1/16W
R1419	NRSA6AJ-221W	MG RESISTOR	220Ω,1/16W
R1420	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
R1422	NRSA6AJ-332W	MG RESISTOR	3.3kΩ,1/16W
R1423	NRSA6AJ-332W	MG RESISTOR	3.3kΩ,1/16W
R1424	NRSA6AJ-332W	MG RESISTOR	3.3kΩ,1/16W
R1425	NRVA6AD-753W	CMF RESISTOR	75kΩ,1/16W
R1426	NRSA6AJ-334W	MG RESISTOR	330kΩ,1/16W
R1427	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R1428	NRSA6AJ-153W	MG RESISTOR	15kΩ,1/16W
R1429	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R1430	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R1431	NRSA6AJ-683W	MG RESISTOR	68kΩ,1/16W
R1432	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R1433	NRSA6AJ-683W	MG RESISTOR	68kΩ,1/16W
R1434	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R1436	NRSA63J-820X	MG RESISTOR	82Ω,1/16W
R1438	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R1439	NRSA6AJ-332W	MG RESISTOR	3.3kΩ,1/16W
R1440	NRSA6AJ-332W	MG RESISTOR	3.3kΩ,1/16W
R1441	NRSA6AJ-332W	MG RESISTOR	3.3kΩ,1/16W
R1442	NRSA6AJ-332W	MG RESISTOR	3.3kΩ,1/16W
R1443	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R1444	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R1447	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R1448	NRSA6AJ-153W	MG RESISTOR	15kΩ,1/16W
R1449	NRSA6AJ-472W	MG RESISTOR	4.7kΩ,1/16W
R1450	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R1451	NRSA6AJ-224W	MG RESISTOR	220kΩ,1/16W
R1452	NRSA6AJ-334W	MG RESISTOR	330kΩ,1/16W
R1453	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R1454	NRSA6AJ-474W	MG RESISTOR	470kΩ,1/16W
R1455	NRSA6AJ-154W	MG RESISTOR	150kΩ,1/16W
R1456	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
R1457	NRSA6AJ-272W	MG RESISTOR	2.7kΩ,1/16W
R1458	NRSA6AJ-183W	MG RESISTOR	18kΩ,1/16W
R1459	NRSA6AJ-472W	MG RESISTOR	4.7kΩ,1/16W
R1460	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R1461	NRSA6AJ-104W	MG RESISTOR	100kΩ,1/16W
R1462	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R1463	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R1464	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R1465	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R1466	NRSA6AJ-474W	MG RESISTOR	470kΩ,1/16W
R1467	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R1468	NRSA6AJ-474W	MG RESISTOR	470kΩ,1/16W
R1469	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R1470	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
R1471	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R1472	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
R1474	NRVA6AD-472W	CMF RESISTOR	4.7kΩ,1/16W
R2101	NRSA6AJ-471W	MG RESISTOR	470Ω,1/16W
R2102	NRSA6AJ-471W	MG RESISTOR	470Ω,1/16W
R3001	NRSA6AJ-101W	MG RESISTOR	100Ω,1/16W
R3002	NRSA6AJ-105W	MG RESISTOR	1MΩ,1/16W
R3003	NRSA6AJ-471W	MG RESISTOR	470Ω,1/16W
R3004	NRSA6AJ-331W	MG RESISTOR	330Ω,1/16W
R3014	NRSA6AJ-124W	MG RESISTOR	120kΩ,1/16W
R3015	NRSA6AJ-124W	MG RESISTOR	120kΩ,1/16W
R3017	NRSA6AJ-272W	MG RESISTOR	2.7kΩ,1/16W
R3018	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R3019	NRSA6AJ-101W	MG RESISTOR	100Ω,1/16W
R3024	NRSA6AJ-100W	MG RESISTOR	10Ω,1/16W
R3026	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R3033	NRSA6AJ-105W	MG RESISTOR	1MΩ,1/16W
R3036	NRSA6AJ-105W	MG RESISTOR	1MΩ,1/16W
R3037	NRSA6AJ-101W	MG RESISTOR	100Ω,1/16W
R3203	NRSA6AJ-272W	MG RESISTOR	2.7kΩ,1/16W
R3204	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
R3208	NRSA6AJ-820W	MG RESISTOR	82Ω,1/16W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R3209	NRSA6AJ-101W	MG RESISTOR	100Ω,1/16W
R3211	NRSA6AJ-105W	MG RESISTOR	1MΩ,1/16W
R3303	NRSA6AJ-823W	MG RESISTOR	82kΩ,1/16W
R3305	NRSA6AJ-121W	MG RESISTOR	120Ω,1/16W
R3306	NRSA6AJ-391W	MG RESISTOR	390Ω,1/16W
R3308	NRSA6AJ-152W	MG RESISTOR	1.5kΩ,1/16W
R3310	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R3312	NRSA6AJ-222W	MG RESISTOR	2.2kΩ,1/16W
R3315	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R3317	NRSA6AJ-222W	MG RESISTOR	2.2kΩ,1/16W
R3318	NRSA6AJ-562W	MG RESISTOR	5.6kΩ,1/16W
R3319	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R3320	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R3322	NRSA6AJ-222W	MG RESISTOR	2.2kΩ,1/16W
R3323	NRSA6AJ-823W	MG RESISTOR	82kΩ,1/16W
R3324	NRSA6AJ-223W	MG RESISTOR	22kΩ,1/16W
R3325	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R3326	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R3327	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R3328	NRSA6AJ-822W	MG RESISTOR	8.2kΩ,1/16W
R3329	NRSA6AJ-105W	MG RESISTOR	1MΩ,1/16W
R3330	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
R3331	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
R3332	NRSA6AJ-823W	MG RESISTOR	82kΩ,1/16W
R3333	NRSA6AJ-333W	MG RESISTOR	33kΩ,1/16W
R3334	NRSA6AJ-105W	MG RESISTOR	1MΩ,1/16W
R3335	NRSA6AJ-822W	MG RESISTOR	8.2kΩ,1/16W
R3336	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R3337	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R3338	NRSA6AJ-123W	MG RESISTOR	12kΩ,1/16W
R3339	NRSA6AJ-273W	MG RESISTOR	27kΩ,1/16W
R3340	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
R3341	NRSA6AJ-223W	MG RESISTOR	22kΩ,1/16W
R3342	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R3344	NRSA6AJ-101W	MG RESISTOR	100Ω,1/16W
R3350	NRSA6AJ-471W	MG RESISTOR	470Ω,1/16W
R3351	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R3352	NRSA6AJ-562W	MG RESISTOR	5.6kΩ,1/16W
R3353	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
R3551	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
R3552	NRSA6AJ-392W	MG RESISTOR	3.9kΩ,1/16W
R3553	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R3554	NRSA6AJ-471W	MG RESISTOR	470Ω,1/16W
R3701	NRSA6AJ-225W	MG RESISTOR	2.2MΩ,1/16W
R3702	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R3703	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R3704	NRSA6AJ-121W	MG RESISTOR	120Ω,1/16W
R3705	NRSA6AJ-121W	MG RESISTOR	120Ω,1/16W
R3706	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R3707	NRSA6AJ-224W	MG RESISTOR	220kΩ,1/16W
R3708	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R3709	NRSA6AJ-680W	MG RESISTOR	68Ω,1/16W
R3711	NRSA6AJ-680W	MG RESISTOR	68Ω,1/16W
R3713	NRSA6AJ-680W	MG RESISTOR	68Ω,1/16W
R3718	NRSA6AJ-101W	MG RESISTOR,C,D	100Ω,1/16W
R3719	NRSA6AJ-472W	MG RESISTOR,C,D	4.7kΩ,1/16W
R3720	NRSA6AJ-472W	MG RESISTOR	4.7kΩ,1/16W
R3721	NRSA6AJ-203W	MG RESISTOR	20kΩ,1/16W
R3722	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R3731	NRVA6AD-681W	CMF RESISTOR	680Ω,1/16W
R3732	NRVA6AD-472W	CMF RESISTOR	4.7kΩ,1/16W
R3733	NRVA6AD-332W	CMF RESISTOR	3.3kΩ,1/16W
R3734	NRSA6AJ-222W	MG RESISTOR	2.2kΩ,1/16W
R3801	NRSA6AJ-101W	MG RESISTOR,C,D	100Ω,1/16W
R3802	NRSA6AJ-103W	MG RESISTOR,C,D	10kΩ,1/16W
R3803	NRSA6AJ-103W	MG RESISTOR,C,D	10kΩ,1/16W
R3804	NRSA6AJ-101W	MG RESISTOR,C,D	100Ω,1/16W
R3805	NRSA6AJ-472W	MG RESISTOR,C,D	4.7kΩ,1/16W
R3806	NRSA6AJ-103W	MG RESISTOR,C,D	10kΩ,1/16W
R3807	NRSA6AJ-472W	MG RESISTOR,C,D	4.7kΩ,1/16W
R3808	NRSA6AJ-333W	MG RESISTOR,C,D	33kΩ,1/16W
R3809	NRVA6AD-681W	CMF RESISTOR,C,D	680Ω,1/16W
R3810	NRVA6AD-102W	CMF RESISTOR,C,D	1kΩ,1/16W
R3811	NRVA6AD-153W	CMF RESISTOR,C,D	15kΩ,1/16W
R3812	NRVA6AD-123W	CMF RESISTOR,C,D	12kΩ,1/16W
R3813	NRSA6AJ-222W	MG RESISTOR,C,D	2.2kΩ,1/16W
R3851	NRVA6AD-102W	CMF RESISTOR,C,D	1kΩ,1/16W
R3852	NRSA6AJ-273W	MG RESISTOR,C,D	27kΩ,1/16W
R3853	NRVA6AD-112W	CMF RESISTOR,C,D	1.1kΩ,1/16W
R3854	NRSA6AJ-223W	MG RESISTOR,C,D	22kΩ,1/16W
R3855	NRSA6AJ-223W	MG RESISTOR,C,D	22kΩ,1/16W
R3856	NRSA6AJ-681W	MG RESISTOR,C,D	680Ω,1/16W
R3857	NRSA6AJ-821W	MG RESISTOR,C,D	820Ω,1/16W
R3858	NRSA6AJ-821W	MG RESISTOR,C,D	820Ω,1/16W
R3859	NRSA6AJ-102W	MG RESISTOR,C,D	1kΩ,1/16W
R3861	NRVA6AD-102W	CMF RESISTOR,C,D	1kΩ,1/16W
R3863	NRVA6AD-112W	CMF RESISTOR,C,D	1.1kΩ,1/16W
R3864	NRSA6AJ-473W	MG RESISTOR,C,D	47kΩ,1/16W
R3865	NRSA6AJ-563W	MG RESISTOR,C,D	56kΩ,1/16W
R3866	NRSA6AJ-681W	MG RESISTOR,C,D	680Ω,1/16W
R3867	NRSA6AJ-821W	MG RESISTOR,C,D	820Ω,1/16W
R3868	NRSA6AJ-821W	MG RESISTOR,C,D	820Ω,1/16W
R3869	NRSA6AJ-102W	MG RESISTOR,C,D	1kΩ,1/16W
R3870	NRSA6AJ-471W	MG RESISTOR,C,D	470Ω,1/16W
R3871	NRSA6AJ-332W	MG RESISTOR,C,D	3.3kΩ,1/16W
R3873	NRSA6AJ-102W	MG RESISTOR,C,D	1kΩ,1/16W
R3874	NRSA6AJ-332W	MG RESISTOR,C,D	3.3kΩ,1/16W
R4302	NRSA6AJ-121W	MG RESISTOR	120Ω,1/16W
R4303	NRSA6AJ-561W	MG RESISTOR	560Ω,1/16W
R4304	NRSA6AJ-561W	MG RESISTOR	560Ω,1/16W
R4305	NRSA6AJ-561W	MG RESISTOR	560Ω,1/16W
R4307	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R4310	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R4313	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R4314	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R4315	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R4316	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R4317	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R4320	NRSA6AJ-220W	MG RESISTOR	22Ω,1/16W
R4321	NRSA6AJ-220W	MG RESISTOR	22Ω,1/16W
R4322	NRSA6AJ-333W	MG RESISTOR,C,D	33kΩ,1/16W
R4323	NRSA6AJ-333W	MG RESISTOR,C,D	33kΩ,1/16W
R4324	NRSA6AJ-0R0W	MG RESISTOR,C,D	0Ω,1/16W
R4325	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R4326	NRSA6AJ-0R0W	MG RESISTOR,A,B	0Ω,1/16W
R4327	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R4329	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R4330	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R4331	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R4332	NRSA6AJ-221W	MG RESISTOR	220Ω,1/16W
R4333	NRSA6AJ-221W	MG RESISTOR	220Ω,1/16W
R4334	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R4335	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R4336	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R4337	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R4338	NRSA6AJ-220W	MG RESISTOR	22Ω,1/16W
R4339	NRSA6AJ-220W	MG RESISTOR	22Ω,1/16W
R4340	NRSA6AJ-220W	MG RESISTOR,C,D	22Ω,1/16W
R4341	NRSA6AJ-0R0W	MG RESISTOR,C,D	0Ω,1/16W
R4342	NRSA6AJ-0R0W	MG RESISTOR,C,D	0Ω,1/16W
R4343	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R4344	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R4345	NRSA6AJ-100W	MG RESISTOR	10Ω,1/16W
R4347	NRSA6AJ-123W	MG RESISTOR,A,B	12kΩ,1/16W
R4348	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R4351	NRSA6AJ-0R0W	MG RESISTOR,A,B	0Ω,1/16W
R4352	NRSA6AJ-0R0W	MG RESISTOR,A,B	0Ω,1/16W
R4353	NRSA6AJ-0R0W	MG RESISTOR,A,B	0Ω,1/16W
R4354	NRSA6AJ-0R0W	MG RESISTOR,A,B	0Ω,1/16W
R4355	NRVA6AD-333W	CMF RESISTOR,A,B	33kΩ,1/16W
R4356	NRSA6AJ-272W	MG RESISTOR,C,D	2.7kΩ,1/16W
	NRVA6AD-333W	CMF RESISTOR,A,B	33kΩ,1/16W
R4358	NRVA6AD-163W	CMF RESISTOR,A,B	16kΩ,1/16W
	NRSA6AJ-272W	MG RESISTOR,C,D	2.7kΩ,1/16W
R4359	NRVA6AD-363W	CMF RESISTOR,A,B	36kΩ,1/16W
R4360	NRVA6AD-163W	CMF RESISTOR,A,B	16kΩ,1/16W
	NRSA6AJ-272W	MG RESISTOR,C,D	2.7kΩ,1/16W
R4361	NRVA6AD-333W	CMF RESISTOR,A,B	33kΩ,1/16W
R4362	NRVA6AD-163W	CMF RESISTOR,A,B	16kΩ,1/16W
	NRSA6AJ-272W	MG RESISTOR,C,D	2.7kΩ,1/16W
R4363	NRSA6AJ-153W	MG RESISTOR	15kΩ,1/16W
R4364	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R4365	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R4367	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R4369	NRVA6AD-101W	CMF RESISTOR,C,D	100Ω,1/16W
	NRVA6AD-181W	CMF RESISTOR,A,B	180Ω,1/16W
R4370	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R4371	NRVA6AD-131W	CMF RESISTOR,A,B	130Ω,1/16W
	NRVA6AD-151W	CMF RESISTOR,C,D	150Ω,1/16W
R4372	NRSA6AJ-222W	MG RESISTOR	2.2kΩ,1/16W
R4373	NRSA6AJ-222W	MG RESISTOR	2.2kΩ,1/16W
R4374	NRVA6AD-111W	CMF RESISTOR	110Ω,1/16W
R4375	NRVA6AD-271W	CMF RESISTOR	270Ω,1/16W
R4376	NRSA6AJ-222W	MG RESISTOR	2.2kΩ,1/16W
R4377	NRVA6AD-270W	CMF RESISTOR	27Ω,1/16W
R4378	NRSA6AJ-222W	MG RESISTOR	2.2kΩ,1/16W
R4379	NRVA6AD-273W	CMF RESISTOR,A,B	27kΩ,1/16W
	NRSA6AJ-333W	MG RESISTOR,C,D	33kΩ,1/16W
R4381	NRVA6AD-273W	CMF RESISTOR,A,B	27kΩ,1/16W
	NRSA6AJ-333W	MG RESISTOR,C,D	33kΩ,1/16W
R4382	NRVA6AD-273W	CMF RESISTOR,A,B	27kΩ,1/16W
	NRSA6AJ-333W	MG RESISTOR,C,D	33kΩ,1/16W
R6001	NRSA6AJ-104W	MG RESISTOR	100kΩ,1/16W
R6002	NRVA6AD-183W	CMF RESISTOR	18kΩ,1/16W
R6003	NRSA6AJ-104W	MG RESISTOR	100kΩ,1/16W
R6004	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R6005	NRSA6AJ-224W	MG RESISTOR	220kΩ,1/16W
R6006	NRSA6AJ-104W	MG RESISTOR	100kΩ,1/16W
R6007	NRSA6AJ-104W	MG RESISTOR	100kΩ,1/16W
R6009	NRSA6AJ-222W	MG RESISTOR	2.2kΩ,1/16W
R6010	NRSA6AJ-104W	MG RESISTOR	100kΩ,1/16W
R6011	NRSA6AJ-104W	MG RESISTOR	100kΩ,1/16W
R6012	NRVA6AD-823W	CMF RESISTOR	82kΩ,1/16W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R6013	NRVA6AD-473W	CMF RESISTOR	47kΩ,1/16W
⚠ R6017	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R6018	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
RA1001	NRZ0034-102W	NETWORK RESISTOR	1kΩ
RA1002	NRZ0034-102W	NETWORK RESISTOR	1kΩ
RA1003	NRZ0034-104W	NETWORK RESISTOR	100kΩ
RA1004	NRZ0034-104W	NETWORK RESISTOR	100kΩ
RA1005	NRZ0034-102W	NETWORK RESISTOR	1kΩ
RA1401	NRZ0034-473W	NETWORK RESISTOR	47kΩ
RA1402	NRZ0034-102W	NETWORK RESISTOR	1kΩ
RA1403	NRZ0034-102W	NETWORK RESISTOR	1kΩ
RA1404	NRZ0034-102W	NETWORK RESISTOR	1kΩ
RA1405	NRZ0034-102W	NETWORK RESISTOR	1kΩ
RA3001	NRZ0034-0R0W	NETWORK RESISTOR	0Ω
RA3002	NRZ0034-0R0W	NETWORK RESISTOR	0Ω
RA3003	NRZ0034-0R0W	NETWORK RESISTOR	0Ω
RA3004	NRZ0034-0R0W	NETWORK RESISTOR	0Ω
RA3005	NRZ0034-0R0W	NETWORK RESISTOR	0Ω
RA4301	NRZ0034-221W	NETWORK RESISTOR	220Ω
RA4302	NRZ0034-221W	NETWORK RESISTOR	220Ω
RA4303	NRZ0034-221W	NETWORK RESISTOR	220Ω
RA4304	NRZ0034-221W	NETWORK RESISTOR	220Ω
RA4305	NRZ0034-101W	NETWORK RESISTOR	100Ω
RA4306	NRZ0034-101W	NETWORK RESISTOR	100Ω
RA4307	NRZ0034-221W	NETWORK RESISTOR	220Ω
RA4308	NRZ0034-221W	NETWORK RESISTOR	220Ω
C1003	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C1004	NCBA1EK-472W	CAPACITOR	0.0047µF,25V
C1005	NDCA1HJ-330W	CAPACITOR	33pF,50V
C1006	NDCA1HJ-150W	CAPACITOR	15pF,50V
C1007	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C1008	NCBA1CK-103W	CAPACITOR	0.01µF,16V
C1013	NDCA1HJ-130W	CAPACITOR	13pF,50V
C1015	NCBA1CK-103W	CAPACITOR	0.01µF,16V
C1017	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C1019	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C1020	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C1022	NBM90JM-226X	T CAPACITOR	22µF,6.3V
C1023	NBM90JM-226X	T CAPACITOR	22µF,6.3V
C1301	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C1302	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C1303	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C1304	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C1305	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C1306	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C1307	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C1401	NBE90JM-106X	T CAPACITOR	10µF,6.3V
C1402	NBE90JM-106X	T CAPACITOR	10µF,6.3V
C1405	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
C1406	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
C1408	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
C1409	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
C1410	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
C1411	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
C1412	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
C1413	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
C1414	NCBA1CK-103W	CAPACITOR	0.01µF,16V
C1415	NCBA1CK-103W	CAPACITOR	0.01µF,16V
C1416	NCBA1CK-103W	CAPACITOR	0.01µF,16V
C1420	NCBA1CK-103W	CAPACITOR	0.01µF,16V
C1421	NCBA1CK-103W	CAPACITOR	0.01µF,16V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C1422	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C1423	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C1424	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C1425	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C1426	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C1427	NCBA1CK-223W	CAPACITOR	0.022μF,16V
C1428	NCBA1CK-223W	CAPACITOR	0.022μF,16V
C1429	NCBA1CK-223W	CAPACITOR	0.022μF,16V
C1430	NCBA1CK-223W	CAPACITOR	0.022μF,16V
C1431	NCB30JK-105X	CAPACITOR	1μF,6.3V
C2101	NCB30JK-105X	CAPACITOR	1μF,6.3V
C2102	NCB30JK-105X	CAPACITOR	1μF,6.3V
C2103	NCBA1HK-222W	CAPACITOR	0.0022μF,50V
C2104	NCBA1HK-222W	CAPACITOR	0.0022μF,50V
C2105	NBE90JM-475X	T CAPACITOR	4.7μF,6.3V
C2106	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C2107	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C2108	NBE90JM-106X	T CAPACITOR	10μF,6.3V
C3001	NBE90GM-226X	T CAPACITOR	22μF,4.0V
C3003	NCB30JK-105X	CAPACITOR	1μF,6.3V
C3004	NBE90JM-106X	T CAPACITOR	10μF,6.3V
C3005	NDCA1HJ-8R0W	CAPACITOR	8pF,50V
C3006	NDCA1HJ-8R0W	CAPACITOR	8pF,50V
C3007	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C3010	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C3011	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C3012	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C3013	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C3014	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C3015	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C3016	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C3017	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3018	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3019	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3021	NCB21CK-474X	CAPACITOR	0.47μF,16V
C3032	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3041	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3042	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C3046	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3047	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3201	NBE90JM-106X	T CAPACITOR	10μF,6.3V
C3202	NCB30JK-105X	CAPACITOR	1μF,6.3V
C3203	NBZ0001-106X	T CAPACITOR	10μF
C3205	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C3206	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C3207	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C3208	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C3209	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3210	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C3211	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C3212	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C3213	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3214	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3215	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C3216	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C3217	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C3218	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3221	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3222	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C3301	NCB30JK-105X	CAPACITOR	1μF,6.3V
C3302	NBE90JM-106X	T CAPACITOR	10μF,6.3V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C3303	NBE90JM-106X	T CAPACITOR	10μF,6.3V
C3304	NCB30JK-105X	CAPACITOR	1μF,6.3V
C3305	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3306	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3308	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3309	NCBA1HK-102W	CAPACITOR	0.001μF,50V
C3310	NDCA1HJ-151W	CAPACITOR	150pF,50V
C3311	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3312	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3313	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3314	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3315	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3316	NCB20JK-225X	CAPACITOR	2.2μF,6.3V
C3317	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3318	NCBA1AK-683W	CAPACITOR	0.068μF,10V
C3319	NCB20JK-225X	CAPACITOR	2.2μF,6.3V
C3320	NCBA1AK-333W	CAPACITOR	0.033μF,10V
C3321	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3322	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3324	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3325	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3326	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3327	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3328	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3329	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3330	NDCA1HJ-100W	CAPACITOR	10pF,50V
C3331	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3332	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3401	NBE90GM-226X	T CAPACITOR	22μF,4.0V
C3402	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3551	NBEE0JM-476X	T CAPACITOR	47μF,6.3V
C3552	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3702	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3703	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3704	NBE90JM-106X	T CAPACITOR	10μF,6.3V
C3705	NBE40GM-107X	T CAPACITOR	100μF,4.0V
C3706	NBE90GM-226X	T CAPACITOR	22μF,4.0V
C3707	NBE90GM-226X	T CAPACITOR	22μF,4.0V
C3708	NBE40GM-107X	T CAPACITOR	100μF,4.0V
C3709	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3710	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3711	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3712	NRSA6AJ-0R0W	MG RESISTOR,A,B	0Ω, 1/16W
	NCBA1CK-103W	CAPACITOR,C,D	0.01μF,16V
C3713	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3714	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3715	NBE90JM-106X	T CAPACITOR	10μF,6.3V
C3717	NCBA1CK-103W	CAPACITOR,C,D	0.01μF,16V
C3721	NBE20JM-226X	T CAPACITOR	22μF,6.3V
C3722	NCB30JK-105X	CAPACITOR	1μF,6.3V
C3723	NBE90JM-106X	T CAPACITOR	10μF,6.3V
C3724	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3731	NDCA1HJ-120W	CAPACITOR	12pF,50V
C3732	NDCA1HJ-150W	CAPACITOR	15pF,50V
C3733	NDCA1HJ-470W	CAPACITOR	47pF,50V
C3734	NDCA1HJ-390W	CAPACITOR	39pF,50V
C3735	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3736	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3801	NBE90JM-106X	T CAPACITOR	10μF,6.3V
C3802	NCBA1AK-104W	CAPACITOR,C,D	0.1μF,10V
C3803	NBE90JM-106X	T CAPACITOR	10μF,6.3V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C3804	NCBA1AK-104W	CAPACITOR,C,D	0.1µF,10V
C3805	NCBA1CK-103W	CAPACITOR,C,D	0.01µF,16V
C3806	NCBA1CK-103W	CAPACITOR,C,D	0.01µF,16V
C3807	NCBA1CK-103W	CAPACITOR,C,D	0.01µF,16V
C3808	NCBA1CK-103W	CAPACITOR,C,D	0.01µF,16V
C3809	NCBA1AK-104W	CAPACITOR,C,D	0.1µF,10V
C3810	NCBA1AK-104W	CAPACITOR,C,D	0.1µF,10V
C3811	NCBA1CK-103W	CAPACITOR,C,D	0.01µF,16V
C3812	NBE90JM-106X	T CAPACITOR	10µF,6.3V
C3813	NCBA1CK-103W	CAPACITOR,C,D	0.01µF,16V
C3815	NCBA1AK-104W	CAPACITOR,C,D	0.1µF,10V
C3816	NCBA1AK-104W	CAPACITOR,C,D	0.1µF,10V
C3817	NCBA1CK-103W	CAPACITOR,C,D	0.01µF,16V
C3818	NBE90JM-106X	T CAPACITOR	10µF,6.3V
C3819	NCBA1AK-104W	CAPACITOR,C,D	0.1µF,10V
C3820	NCBA1AK-104W	CAPACITOR,C,D	0.1µF,10V
C3821	NCBA1AK-104W	CAPACITOR,C,D	0.1µF,10V
C3822	NCBA1CK-103W	CAPACITOR,C,D	0.01µF,16V
C3823	NDCA1HJ-680W	CAPACITOR,C,D	68pF,50V
C3824	NDCA1HJ-680W	CAPACITOR,C,D	68pF,50V
C3851	NBE20JM-226X	T CAPACITOR	22µF,6.3V
C3852	NCBA1CK-103W	CAPACITOR,C,D	0.01µF,16V
C3853	NCBA1CK-103W	CAPACITOR,C,D	0.01µF,16V
C3855	NCBA1CK-103W	CAPACITOR,C,D	0.01µF,16V
C3856	NCB30JK-105X	CAPACITOR,C,D	1µF,6.3V
C3857	NCB30JK-105X	CAPACITOR,C,D	1µF,6.3V
C3858	NCBA1CK-103W	CAPACITOR,C,D	0.01µF,16V
C3859	NCB20JM-475X	CAPACITOR,C,D	4.7µF,6.3V
C3861	NCB20JK-225X	CAPACITOR,C,D	2.2µF,6.3V
C3862	NCBA1CK-103W	CAPACITOR,C,D	0.01µF,16V
C4281	NBP41DM-106X	T CAPACITOR	10µF,20V
C4282	NCFA1HZ-103W	CAPACITOR	0.01µF,50V
C4284	NBE41AM-226X	T CAPACITOR	22µF,10V
C4285	NBE41AM-226X	T CAPACITOR	22µF,10V
C4286	NBE41AM-226X	T CAPACITOR	22µF,10V
C4287	NBE41AM-226X	T CAPACITOR	22µF,10V
C4288	NCBA1AK-104W	T CAPACITOR	0.1µF,10V
C4301	NCB30JK-105X	CAPACITOR	1µF,6.3V
C4302	NBE90JM-106X	T CAPACITOR	10µF,6.3V
C4303	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C4304	NBE90JM-106X	T CAPACITOR	10µF,6.3V
C4307	NBE90JM-106X	T CAPACITOR	10µF,6.3V
C4308	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C4309	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C4310	NBG40GM-226X	T CAPACITOR	22µF,4.0V
C4312	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C4313	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C4315	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C4316	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C4317	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C4318	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C4319	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C4320	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C4321	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C4323	NCBA1AK-104W	CAPACITOR,A,B	0.1µF,10V
C4324	NCBA1HK-331W	CAPACITOR,A,B	330pF,50V
C4351	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C4352	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C4353	NCB30JK-105X	CAPACITOR	1µF,6.3V
C4355	NCB30JK-105X	CAPACITOR	1µF,6.3V
C4357	NCB30JK-105X	CAPACITOR	1µF,6.3V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C4359	NCB30JK-105X	CAPACITOR	1µF,6.3V
C4361	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C4362	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C4363	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C4364	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C4365	NBE90JM-106X	T CAPACITOR	10µF,6.3V
C6001	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C6002	NCBA1CK-103W	CAPACITOR	0.01µF,16V
C6003	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C6004	NBE90JM-106X	T CAPACITOR	10µF,6.3V
C6005	NBP21CM-685X	T CAPACITOR	6.8µF,16V
C6006	NCF31AZ-105X	CAPACITOR	1µF,10V
C6007	NBE90JM-106X	T CAPACITOR	10µF,6.3V
C6008	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C6009	NCBA1CK-103W	CAPACITOR	0.01µF,16V
L1001	NQR0265-001X	FERRITE BEAD	
L1002	NQR0265-001X	FERRITE BEAD	
L1003	NQL085J-390X	COIL	39µH
L1401	NQR0006-001X	FERRITE BEAD	
L1402	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
L2101	NQL402M-100X	COIL	10µH
L3001	NQR0305-001X	FERRITE BEAD	
L3002	NQR0006-001X	FERRITE BEAD	
L3003	NQR0305-001X	FERRITE BEAD	
L3005	NQR0305-001X	FERRITE BEAD	
L3201	NQR0006-001X	FERRITE BEAD	
L3202	NQR0305-001X	FERRITE BEAD	
L3301	NQR0006-001X	FERRITE BEAD	
L3302	NQL04DK-100X	COIL	10µH
L3303	NQL04DK-100X	COIL	10µH
L3304	NQR0006-001X	FERRITE BEAD	
L3401	NQR0006-001X	FERRITE BEAD	
L3551	NQR0006-001X	FERRITE BEAD	
L3701	NQL302N-100X	COIL	10µH
L3731	NQL085J-120X	COIL	12µH
L3732	NQL085J-270X	COIL	27µH
L3801	NQR0305-001X	FERRITE BEAD,C,D	
L3802	NQR0006-001X	FERRITE BEAD,C,D	
L3851	NQL302N-100X	COIL,C,D	10µH
L4281	NQL402M-100X	COIL	10µH
L4282	NQL402M-100X	COIL	10µH
L4301	NQR0265-001X	FERRITE BEAD	
L4302	NQR0265-001X	FERRITE BEAD	
L4303	NQR0265-001X	FERRITE BEAD	
L4305	NQR0265-001X	FERRITE BEAD	
L4351	NQL402M-100X	COIL	10µH
L6001	NQL402M-100X	COIL	10µH
FL3851	NQR0344-001X	LOW PASS FILTER,C,D	
FL3852	NQR0344-001X	LOW PASS FILTER,C,D	
X1001	NAX0279-001X	C OSCILLATOR	
X1002	NAX0267-001X	CRYSTAL RESONATOR	
X3001	NAX0206-001X	CRYSTAL RESONATOR	
X3301	NAX0296-001X	C OSCILLATOR	
X4301	NAX0332-001X	CXO	
L1	QQR0895-013	FERRITE CORE	
CN101	QGB0510M1-20X	CONNECTOR	
CN102	QGB0503M1-40X	CONNECTOR	
CN103	QGB0507M1-60X	CONNECTOR	
CN104	QGB0511L1-D0X	CONNECTOR	
CN105	QGB0503M1-30X	CONNECTOR	
CN106	QGF0301F1-33X	FPC CONNECTOR	

⚠ REF No.	PART No.	PART NAME, DESCRIPTION
CN107	QGF0301F1-57X	FPC CONNECTOR
CN108	QGB0503M1-80X	CONNECTOR
CN109	QGF0512C1-12X	FPC CONNECTOR
OT1	LY31367-001A	FPC ASSY(CN107-MONI)
OT2	LY30016-0U4B	SPACER-A
OT3	LY42208-001A	S.SHEET(MAIN)
OT4	LY30029-034A	SPACER(A)
OT5	QAL0196-002	FPC(CN106-JACK)
SD1	LY42209-001A	SHIELD PLATE,C,D

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DSC BOARD ASSEMBLY <02>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
PW	YB10263B-03	DSC BOARD ASSY	
IC1201	BA6417F	IC	
IC2201	LA74202W	IC	
IC2501	BA10358FV	IC	
IC4802	TA75W01FU	IC	
IC4803	TA75W01FU	IC	
IC4804	NJM3414AV	IC	
IC4805	MM6564XFBE	IC	
IC4851	UPD16879GS	IC	
IC6601	TC7W74FK	IC	
	or TC7WH74FK	IC	
IC8001	JCY0121-4	IC	
IC8002	UPD4516161AFB12	IC	
IC8003	M32310D4WG	IC	
IC8004	MBV800TA10PTA11	IC(MICRO C ROM)	
	or MBV800TA90PTA11	IC(MICRO C ROM)	
	or MBV800TA12PTA11	IC(MICRO C ROM)	
IC8006	MM1385NN	IC	
IC8007	MM1385EN	IC	
IC8008	TC7WHU04FK	IC	
IC8009	TC7WH34FK	IC	
Q2403	2SD1511/R/-X	TRANSISTOR	
Q2501	DTC144EE	TRANSISTOR	
	or RN1104	TRANSISTOR	
Q2603	2SC4617/QR/-X	TRANSISTOR	
Q2604	2SC4617/QR/-X	TRANSISTOR	
Q2703	2SC5585	TRANSISTOR	
Q2704	2SC5585	TRANSISTOR	
Q2705	2SC4617/QR/-X	TRANSISTOR	
Q2755	UMX1N	PAIR TRANSISTOR	
Q4803	2SC4655/BC/-X	TRANSISTOR	
Q4851	2SC4617/RS/-X	TRANSISTOR	
Q6601	RN1104	TRANSISTOR	
	or DTC144EE	TRANSISTOR	
Q6602	2SA1873/YG/-X	PAIR TRANSISTOR	
Q6611	2SA1774/RS/-X	TRANSISTOR	
Q6612	2SA1873/YG/-X	PAIR TRANSISTOR	
Q6613	2SC4617/RS/-X	TRANSISTOR	
Q6614	RN1702	TRANSISTOR	
Q6615	UMC4N	TRANSISTOR	
D1201	DAP222	DIODE	
D2501	DAN222	DIODE	
D2502	DAN222	DIODE	
D2702	DAN222	DIODE	
D2751	DAN222	DIODE	
R1201	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R1202	NRSA6AJ-153W	MG RESISTOR	15kΩ,1/16W
R2202	NRSA6AJ-472W	MG RESISTOR	4.7kΩ,1/16W
R2203	NRSA6AJ-2R7W	MG RESISTOR	2.7Ω,1/16W
R2204	NRSA6AJ-2R7W	MG RESISTOR	2.7Ω,1/16W
R2205	NRSA6AJ-184W	MG RESISTOR	180kΩ,1/16W
R2206	NRSA6AJ-472W	MG RESISTOR	4.7kΩ,1/16W
R2208	NRSA6AJ-392W	MG RESISTOR	3.9kΩ,1/16W
R2220	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R2221	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R2224	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R2225	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R2226	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R2227	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R2228	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R2229	NRSA6AJ-104W	MG RESISTOR	100kΩ,1/16W
R2230	NRSA6AJ-333W	MG RESISTOR	33kΩ,1/16W
R2412	NRSA6AJ-153W	MG RESISTOR	15kΩ,1/16W
R2413	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R2415	NRSA6AJ-560W	MG RESISTOR	56Ω,1/16W
R2416	NRSA6AJ-560W	MG RESISTOR	56Ω,1/16W
R2423	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R2429	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R2501	NRSA6AJ-560W	MG RESISTOR	56Ω,1/16W
R2502	NRSA6AJ-560W	MG RESISTOR	56Ω,1/16W
R2504	NRSA6AJ-153W	MG RESISTOR	15kΩ,1/16W
R2505	NRVA6AD-104W	CMF RESISTOR	100kΩ, 1/16W
R2506	NRSA6AJ-154W	MG RESISTOR	150kΩ, 1/16W
R2507	NRVA6AD-102W	CMF RESISTOR	1kΩ, 1/16W
R2508	NRSA6AJ-105W	MG RESISTOR	1MΩ, 1/16W
R2509	NRVA6AD-104W	CMF RESISTOR	100kΩ, 1/16W
R2510	NRSA6AJ-274W	MG RESISTOR	270kΩ, 1/16W
R2512	NRVA6AD-273W	CMF RESISTOR	27kΩ, 1/16W
R2513	NRVA6AD-273W	CMF RESISTOR	27kΩ, 1/16W
R2514	NRVA6AD-272W	CMF RESISTOR	2.7kΩ, 1/16W
R2515	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
R2601	NRSA6AJ-182W	MG RESISTOR	1.8kΩ, 1/16W
R2602	NRSA6AJ-182W	MG RESISTOR	1.8kΩ, 1/16W
R2603	NRSA6AJ-123W	MG RESISTOR	12kΩ, 1/16W
R2604	NRSA6AJ-123W	MG RESISTOR	12kΩ, 1/16W
R2609	NRSA6AJ-332W	MG RESISTOR	3.3kΩ, 1/16W
R2610	NRSA6AJ-332W	MG RESISTOR	3.3kΩ, 1/16W
R2613	NRSA6AJ-472W	MG RESISTOR	4.7kΩ, 1/16W
R2614	NRSA6AJ-472W	MG RESISTOR	4.7kΩ, 1/16W
R2615	NRSA6AJ-682W	MG RESISTOR	6.8kΩ, 1/16W
R2616	NRSA6AJ-682W	MG RESISTOR	6.8kΩ, 1/16W
R2619	NRSA6AJ-472W	MG RESISTOR	4.7kΩ, 1/16W
R2620	NRSA6AJ-472W	MG RESISTOR	4.7kΩ, 1/16W
R2621	NRSA6AJ-472W	MG RESISTOR	4.7kΩ, 1/16W
R2622	NRSA6AJ-472W	MG RESISTOR	4.7kΩ, 1/16W
R2623	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
R2624	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
R2627	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
R2628	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
R2629	NRSA6AJ-333W	MG RESISTOR	33kΩ, 1/16W
R2630	NRSA6AJ-333W	MG RESISTOR	33kΩ, 1/16W
R2631	NRSA6AJ-153W	MG RESISTOR	15kΩ, 1/16W
R2632	NRSA6AJ-153W	MG RESISTOR	15kΩ, 1/16W
R2633	NRSA6AJ-153W	MG RESISTOR	15kΩ, 1/16W
R2634	NRSA6AJ-153W	MG RESISTOR	15kΩ, 1/16W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R2638	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R2701	NRSA6AJ-151W	MG RESISTOR	150Ω,1/16W
R2702	NRSA6AJ-151W	MG RESISTOR	150Ω,1/16W
R2710	NRSA6AJ-222W	MG RESISTOR	2.2kΩ,1/16W
R2711	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R2712	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R2713	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R2714	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R2715	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R2719	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R2721	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R2756	NRSA6AJ-332W	MG RESISTOR	3.3kΩ,1/16W
R2757	NRSA6AJ-564W	MG RESISTOR	560kΩ,1/16W
R2758	NRSA6AJ-564W	MG RESISTOR	560kΩ,1/16W
R2759	NRSA6AJ-821W	MG RESISTOR	820Ω,1/16W
R2760	NRSA6AJ-821W	MG RESISTOR	820Ω,1/16W
R2775	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
R2776	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
R2777	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R2778	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R4801	NRSA6AJ-104W	MG RESISTOR	100kΩ,1/16W
R4802	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R4803	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R4804	NRSA63J-151X	MG RESISTOR	150Ω,1/16W
R4805	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R4806	NRSA63J-823X	MG RESISTOR	82kΩ,1/16W
R4807	NRSA63J-683X	MG RESISTOR	68kΩ,1/16W
R4808	NRSA6AJ-243W	MG RESISTOR	24kΩ,1/16W
R4809	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
R4810	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R4811	NRSA63J-564X	MG RESISTOR	560kΩ,1/16W
R4812	NRSA6AJ-153W	MG RESISTOR	15kΩ,1/16W
R4814	NRSA6AJ-105W	MG RESISTOR	1MΩ,1/16W
R4815	NRSA6AJ-472W	MG RESISTOR	4.7kΩ,1/16W
R4816	NRSA6AJ-185W	MG RESISTOR	1.8MΩ,1/16W
R4817	NRSA6AJ-564W	MG RESISTOR	560kΩ,1/16W
R4818	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R4819	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R4820	NRSA6AJ-104W	MG RESISTOR	100kΩ,1/16W
R4821	NRSA6AJ-104W	MG RESISTOR	100kΩ,1/16W
R4822	NRSA63J-333X	MG RESISTOR	33kΩ,1/16W
R4823	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R4824	NRSA6AJ-472W	MG RESISTOR	4.7kΩ,1/16W
R4825	NRSA6AJ-183W	MG RESISTOR	18kΩ,1/16W
R4826	NRSA6AJ-333W	MG RESISTOR	33kΩ,1/16W
R4827	NRSA6AJ-122W	MG RESISTOR	1.2kΩ,1/16W
R4851	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R4853	NRSA6AJ-271W	MG RESISTOR	270Ω,1/16W
R4854	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R4856	NRSA63J-6R8X	MG RESISTOR	6.8Ω,1/16W
R4857	NRSA63J-6R8X	MG RESISTOR	6.8Ω,1/16W
R4858	NRSA6AJ-333W	MG RESISTOR	33kΩ,1/16W
R4859	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R4860	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R4862	NRSA63J-6R8X	MG RESISTOR	6.8Ω,1/16W
R4863	NRSA63J-6R8X	MG RESISTOR	6.8Ω,1/16W
R4864	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R4865	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R4866	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R4867	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R4868	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R4869	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R4871	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R6601	NRSA6AJ-822W	MG RESISTOR	8.2kΩ,1/16W
R6603	NRVA6AD-683W	CMF RESISTOR	68kΩ,1/16W
R6604	NRVA6AD-104W	CMF RESISTOR	100kΩ,1/16W
R6605	NRSA6AJ-184W	MG RESISTOR	180kΩ,1/16W
R6606	NRSA6AJ-823W	MG RESISTOR	82kΩ,1/16W
R6611	NRSA6AJ-335W	MG RESISTOR	3.3MΩ,1/16W
R6612	NRSA6AJ-474W	MG RESISTOR	470kΩ,1/16W
R6613	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
R6614	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
R6615	NRSA6AJ-474W	MG RESISTOR	470kΩ,1/16W
R6616	NRSA6AJ-273W	MG RESISTOR	27kΩ,1/16W
R6617	NRSA6AJ-333W	MG RESISTOR	33kΩ,1/16W
R8001	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R8002	NRSA6AJ-100W	MG RESISTOR	10Ω,1/16W
R8003	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
R8004	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R8006	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R8007	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
R8008	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R8009	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R8011	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
R8012	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R8015	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R8016	NRVA6AD-133W	CMF RESISTOR	13kΩ,1/16W
R8017	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R8018	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
R8020	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R8021	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R8022	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R8023	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R8027	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R8028	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R8029	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R8030	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R8032	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R8033	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R8034	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R8035	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R8039	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R8040	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R8042	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R8043	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R8047	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R8048	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R8049	NRSA6AJ-562W	MG RESISTOR	5.6kΩ,1/16W
R8050	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R8051	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R8054	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R8055	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R8057	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R8064	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R8065	NRSA6AJ-101W	MG RESISTOR	100Ω,1/16W
R8067	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
RA8001	NRZ0034-100W	NETWORK RESISTOR	10Ω
RA8002	NRZ0034-100W	NETWORK RESISTOR	10Ω
RA8003	NRZ0034-100W	NETWORK RESISTOR	10Ω
RA8004	NRZ0034-100W	NETWORK RESISTOR	10Ω
C1201	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C1202	NCBA1AK-104W	CAPACITOR	0.1μF,10V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C1204	NCB21AK-105X	CAPACITOR	1µF,10V
C2203	NBE90JM-475X	T CAPACITOR	4.7µF,6.3V
C2204	NBE90JM-106X	T CAPACITOR	10µF,6.3V
C2207	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C2208	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C2210	NBE41AM-106X	T CAPACITOR	10µF,10V
C2211	NBE40JM-476X	T CAPACITOR	47µF,6.3V
C2212	NBE90JM-106X	T CAPACITOR	10µF,6.3V
C2214	NCB31CK-104X	CAPACITOR	0.1µF,16V
C2215	NCB31CK-104X	CAPACITOR	0.1µF,16V
C2216	NCBA1CK-103W	CAPACITOR	0.01µF,16V
C2217	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C2220	NCB30JK-105X	CAPACITOR	1µF,6.3V
C2221	NCB30JK-105X	CAPACITOR	1µF,6.3V
C2224	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C2227	NCB21CK-105X	CAPACITOR	1µF,16V
C2407	NBE20GM-476X	T CAPACITOR	47µF,4.0V
C2413	NBE40JM-476X	T CAPACITOR	47µF,6.3V
C2501	NBE90JM-106X	T CAPACITOR	10µF,6.3V
C2502	NCBA1EK-472W	CAPACITOR	0.0047µF,25V
C2503	NCB30JK-105X	CAPACITOR	1µF,6.3V
C2505	NCB30JK-474X	CAPACITOR	0.47µF,6.3V
C2506	NBE90JM-106X	T CAPACITOR	10µF,6.3V
C2508	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C2603	NCB31CK-223X	CAPACITOR	0.022µF,16V
C2604	NCB31CK-223X	CAPACITOR	0.022µF,16V
C2605	NCBA1HK-152W	CAPACITOR	0.0015µF,50V
C2606	NCBA1HK-152W	CAPACITOR	0.0015µF,50V
C2611	NCB31CK-473X	CAPACITOR	0.047µF,16V
C2612	NCB31CK-473X	CAPACITOR	0.047µF,16V
C2613	NCBA1HK-332W	CAPACITOR	0.0033µF,50V
C2614	NCBA1HK-332W	CAPACITOR	0.0033µF,50V
C2617	NCB31CK-473X	CAPACITOR	0.047µF,16V
C2618	NCB31CK-473X	CAPACITOR	0.047µF,16V
C2621	NBE90JM-475X	T CAPACITOR	4.7µF,6.3V
C2622	NBE90JM-475X	T CAPACITOR	4.7µF,6.3V
C2625	NCB31CK-104X	CAPACITOR	0.1µF,16V
C2626	NCB31CK-104X	CAPACITOR	0.1µF,16V
C2627	NCBA1HK-102W	CAPACITOR	0.001µF,50V
C2628	NCBA1HK-102W	CAPACITOR	0.001µF,50V
C2629	NBE20GM-336X	T CAPACITOR	33µF,4.0V
C2631	NCB31EK-103X	CAPACITOR	0.01µF,25V
C2632	NCB31EK-103X	CAPACITOR	0.01µF,25V
C2635	NCB30JK-105X	CAPACITOR	1µF,6.3V
C2636	NCB30JK-105X	CAPACITOR	1µF,6.3V
C2639	NCB31CK-104X	CAPACITOR	0.1µF,16V
C2640	NCB31CK-104X	CAPACITOR	0.1µF,16V
C2702	NBE90JM-106X	T CAPACITOR	10µF,6.3V
C2703	NBE90JM-106X	T CAPACITOR	10µF,6.3V
C2708	NCBA1HK-332W	CAPACITOR	0.0033µF,50V
C2709	NCBA1HK-332W	CAPACITOR	0.0033µF,50V
C2753	NCB20JK-225X	CAPACITOR	2.2µF,6.3V
C2754	NCB20JK-225X	CAPACITOR	2.2µF,6.3V
C2764	NCB20JK-225X	CAPACITOR	2.2µF,6.3V
C2765	NCB20JK-225X	CAPACITOR	2.2µF,6.3V
C2766	NCB21CK-474X	CAPACITOR	0.47µF,16V
C2767	NCB21CK-474X	CAPACITOR	0.47µF,16V
C4801	NBE90JM-106X	T CAPACITOR	10µF,6.3V
C4802	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C4803	NBM90JM-106X	T CAPACITOR	10µF,6.3V
C4804	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C4805	NDC31HJ-331X	CAPACITOR	330pF,50V
C4806	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C4808	NCB30JK-105X	CAPACITOR	1µF,6.3V
C4809	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C4810	NCBA1CK-103W	CAPACITOR	0.01µF,16V
C4811	NCBA1CK-103W	CAPACITOR	0.01µF,16V
C4812	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C4813	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C4814	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C4815	NDC31HJ-331X	CAPACITOR	330pF,50V
C4818	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C4819	NCB30JK-105X	CAPACITOR	1µF,6.3V
C4820	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C4821	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4822	NCBA1CK-103W	CAPACITOR	0.01µF,16V
C4851	NBE90JM-106X	T CAPACITOR	10µF,6.3V
C4852	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
C4853	NBE91AM-335X	T CAPACITOR	3.3µF,10V
C4854	NBE21AM-106X	T CAPACITOR	10µF,10V
C4855	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4858	NDCA1HJ-680W	CAPACITOR	68pF,50V
C4859	NCBA1HK-102W	CAPACITOR	0.001µF,50V
C4860	NCBA1HK-102W	CAPACITOR	0.001µF,50V
C4861	NCBA1HK-102W	CAPACITOR	0.001µF,50V
C4862	NCBA1HK-102W	CAPACITOR	0.001µF,50V
C4864	NBE90JM-106X	T CAPACITOR	10µF,6.3V
C4865	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C6601	NCBA1CK-103W	CAPACITOR	0.01µF,16V
C6602	NBE90JM-106X	T CAPACITOR	10µF,6.3V
C6603	NCBA1HK-102W	CAPACITOR	0.001µF,50V
C6604	NCBA1AK-473W	CAPACITOR	0.047µF,10V
C6611	NCBA1CK-153W	CAPACITOR	0.015µF,16V
C6612	NDCA1EJ-221W	CAPACITOR	220pF,25V
C6613	NDCA1EJ-121W	CAPACITOR	120pF,25V
C8001	NBE90JM-106X	T CAPACITOR	10µF,6.3V
C8002	NCBA1CK-103W	CAPACITOR	0.01µF,16V
C8003	NCBA1CK-103W	CAPACITOR	0.01µF,16V
C8004	NCBA1CK-103W	CAPACITOR	0.01µF,16V
C8006	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C8007	NBE90JM-106X	T CAPACITOR	10µF,6.3V
C8008	NCB30JK-105X	CAPACITOR	1µF,6.3V
C8009	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C8010	NBE90JM-106X	T CAPACITOR	10µF,6.3V
C8011	NCB30JK-105X	CAPACITOR	1µF,6.3V
C8017	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C8018	NCBA1AK-104W	CAPACITOR	0.1µF,10V
C8019	NBE90JM-106X	T CAPACITOR	10µF,6.3V
C8020	NBE90JM-106X	T CAPACITOR	10µF,6.3V
C8021	NCBA1CK-103W	CAPACITOR	0.01µF,16V
C8022	NCBA1CK-103W	CAPACITOR	0.01µF,16V
C8023	NCBA1CK-103W	CAPACITOR	0.01µF,16V
C8024	NCBA1CK-103W	CAPACITOR	0.01µF,16V
C8025	NCBA1CK-103W	CAPACITOR	0.01µF,16V
C8026	NCBA1CK-103W	CAPACITOR	0.01µF,16V
C8027	NCBA1CK-103W	CAPACITOR	0.01µF,16V
C8028	NCBA1CK-103W	CAPACITOR	0.01µF,16V
C8029	NCBA1CK-103W	CAPACITOR	0.01µF,16V
C8030	NCBA1CK-103W	CAPACITOR	0.01µF,16V
C8031	NCBA1CK-103W	CAPACITOR	0.01µF,16V
C8032	NCBA1CK-103W	CAPACITOR	0.01µF,16V
C8033	NCBA1CK-103W	CAPACITOR	0.01µF,16V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C8034	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C8035	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C8036	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C8037	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C8038	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C8039	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C8040	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C8041	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C8042	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C8043	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C8044	NBE20GM-476X	T CAPACITOR	47μF,4.0V
C8045	NBE20JM-226X	T CAPACITOR	22μF,6.3V
C8046	NBE90JM-106X	T CAPACITOR	10μF,6.3V
C8048	NBE20GM-476X	T CAPACITOR	47μF,4.0V
C8049	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C8050	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C8051	NBE20GM-476X	T CAPACITOR	47μF,4.0V
C8052	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C8054	NCB31HK-392X	CAPACITOR	0.0039μF,50V
C8056	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C8057	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C8058	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C8059	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C8060	NCBA1CK-103W	CAPACITOR	0.01μF,16V
L1201	NQL315K-100X	COIL	10μH
L2401	NQL402M-100X	COIL	10μH
L2601	NQR0251-004X	FERRITE BEAD	
L2602	NQR0251-004X	FERRITE BEAD	
L2603	NQR0251-004X	FERRITE BEAD	
L4801	NQL315K-100X	COIL	10μH
L4802	NQL315K-100X	COIL	10μH
L4851	NQR0129-002X	FERRITE BEAD	
L4852	NQL315K-100X	COIL	10μH
L6601	NQL402M-100X	COIL	10μH
L8001	NQR0129-002X	FERRITE BEAD	
L8002	NQR0129-002X	FERRITE BEAD	
L8003	NQR0129-002X	FERRITE BEAD	
L8005	NQR0129-002X	FERRITE BEAD	
L8006	NQR0129-002X	FERRITE BEAD	
L8007	NQR0129-002X	FERRITE BEAD	
L8008	NQR0129-002X	FERRITE BEAD	
L8009	NQR0129-002X	FERRITE BEAD	
L8010	NQR0129-002X	FERRITE BEAD	
L8011	NQR0129-002X	FERRITE BEAD	
X8002	NAX0365-001X	RESONATOR	
WR1	WJT0017-001A	E-CARD WIRE	
CN201	NNZ0030-001	MMC CONNECTOR	
CN202	QGB0511M1-D0X	CONNECTOR	
CN203	QGB0507L1-30X	CONNECTOR	
CN204	QGA1201F2-03X	CONNECTOR	
CN205	QGF0505F2-08X	FPC CONNECTOR	
CN206	QGF0512C1-24X	FPC CONNECTOR	
CN207	QGF0512C1-12X	FPC CONNECTOR	
OT1	LY42206-001A	S.SHEET(DSC)	
OT2	LY30017-018A	SPACER-B	
OT3	LY30029-037A	SPACER(A)	

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	

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REG BOARD ASSEMBLY <03>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
PW	YB10264A-03	REG BOARD ASSY	
IC6101	BD9712KU	IC	
Q6103	CPH6302	MOS FET	
Q6104	CPH6302	MOS FET	
Q6105	CPH6302	MOS FET	
Q6106	CPH6302	MOS FET	
Q6107	CPH6302	MOS FET	
Q6108	CPH6302	MOS FET	
Q6109	CPH3403	MOS FET	
Q6110	CPH6302	MOS FET	
Q6112	CPH6302	MOS FET	
Q6113	CPH3403	MOS FET	
D6101	RB161L-40-X	SB DIODE	
D6102	RB161L-40-X	SB DIODE	
D6103	RB161L-40-X	SB DIODE	
D6104	RB411D	SB DIODE	
D6105	RB411D	SB DIODE	
D6106	RB161L-40-X	SB DIODE	
D6107	RB161L-40-X	SB DIODE	
D6108	RB161L-40-X	SB DIODE	
D6109	RB161L-40-X	SB DIODE	
R6101	NRVA6AD-183W	CMF RESISTOR	18kΩ,1/16W
R6102	NRVA6AD-183W	CMF RESISTOR	18kΩ,1/16W
R6103	NRVA6AD-273W	CMF RESISTOR	27kΩ,1/16W
R6104	NRVA6AD-302W	CMF RESISTOR	3kΩ,1/16W
R6105	NRVA6AD-473W	CMF RESISTOR	47kΩ,1/16W
R6106	NRVA6AD-242W	CMF RESISTOR	2.4kΩ,1/16W
R6107	NRVA6AD-432W	CMF RESISTOR	4.3kΩ,1/16W
R6109	NRVA6AD-822W	CMF RESISTOR	8.2kΩ,1/16W
R6110	NRVA6AD-473W	CMF RESISTOR	47kΩ,1/16W
R6111	NRVA6AD-243W	CMF RESISTOR	24kΩ,1/16W
R6112	NRVA6AD-182W	CMF RESISTOR	1.8kΩ,1/16W
R6114	NRVA6AD-243W	CMF RESISTOR	24kΩ,1/16W
R6115	NRVA6AD-302W	CMF RESISTOR	3kΩ,1/16W
R6117	NRVA6AD-512W	CMF RESISTOR	5.1kΩ,1/16W
R6118	NRVA6AD-472W	CMF RESISTOR	4.7kΩ,1/16W
R6120	NRVA6AD-153W	CMF RESISTOR	15kΩ,1/16W
R6122	NRVA6AD-623W	CMF RESISTOR	62kΩ,1/16W
R6123	NRVA63D-682X	CMF RESISTOR	6.8kΩ,1/16W
R6124	NRVA6AD-223W	CMF RESISTOR	22kΩ,1/16W
R6125	NRVA6AD-473W	CMF RESISTOR	47kΩ,1/16W
R6126	NRVA63D-682X	CMF RESISTOR	6.8kΩ,1/16W
R6127	NRVA6AD-223W	CMF RESISTOR	22kΩ,1/16W
R6128	NRVA6AD-123W	CMF RESISTOR	12kΩ,1/16W
R6129	NRVA6AD-473W	CMF RESISTOR	47kΩ,1/16W
R6131	NRVA6AD-272W	CMF RESISTOR	2.7kΩ,1/16W
R6132	NRVA6AD-302W	CMF RESISTOR	3kΩ,1/16W
R6134	NRVA6AD-562W	CMF RESISTOR	5.6kΩ,1/16W
R6135	NRVA6AD-102W	CMF RESISTOR	1kΩ,1/16W
R6136	NRVA6AD-562W	CMF RESISTOR	5.6kΩ,1/16W
R6138	NRVA6AD-333W	CMF RESISTOR	33kΩ,1/16W
R6139	NRVA6AD-272W	CMF RESISTOR	2.7kΩ,1/16W
R6140	NRVA6AD-302W	CMF RESISTOR	3kΩ,1/16W
R6142	NRVA6AD-562W	CMF RESISTOR	5.6kΩ,1/16W
R6143	NRVA6AD-392W	CMF RESISTOR	3.9kΩ,1/16W
R6144	NRVA6AD-272W	CMF RESISTOR	2.7kΩ,1/16W
R6146	NRVA6AD-302W	CMF RESISTOR	3kΩ,1/16W

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	R6147	NRSA6AJ-4R7W	MG RESISTOR	4.7Ω,1/16W
	R6148	NRSA6AJ-4R7W	MG RESISTOR	4.7Ω,1/16W
	R6151	NRSA6AJ-4R7W	MG RESISTOR	4.7Ω,1/16W
	R6152	NRSA6AJ-4R7W	MG RESISTOR	4.7Ω,1/16W
	R6155	NRSA6AJ-4R7W	MG RESISTOR	4.7Ω,1/16W
	R6156	NRSA6AJ-4R7W	MG RESISTOR	4.7Ω,1/16W
	R6157	NRSA6AJ-4R7W	MG RESISTOR	4.7Ω,1/16W
	R6158	NRSA6AJ-4R7W	MG RESISTOR	4.7Ω,1/16W
	R6159	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
	R6166	NRVA6AD-272W	CMF RESISTOR	2.7kΩ,1/16W
	R6167	NRVA6AD-182W	CMF RESISTOR	1.8kΩ,1/16W
	R6168	NRVA6AD-152W	CMF RESISTOR	1.5kΩ,1/16W
	R6169	NRVA6AD-103W	CMF RESISTOR	10kΩ,1/16W
	R6171	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
	C6101	NCB31AK-474X	CAPACITOR	0.47μF,10V
	C6102	NCB31AK-224X	CAPACITOR	0.22μF,10V
	C6103	NCB31CK-104X	CAPACITOR	0.1μF,16V
	C6104	NCBA1AK-104W	CAPACITOR	0.1μF,10V
	C6106	NCBA1AK-104W	CAPACITOR	0.1μF,10V
	C6108	NCBA1AK-104W	CAPACITOR	0.1μF,10V
	C6110	NCBA1CK-103W	CAPACITOR	0.01μF,16V
	C6112	NCB31AK-224X	CAPACITOR	0.22μF,10V
	C6114	NDCA1HJ-390W	CAPACITOR	39pF,50V
	C6115	NDCA1HJ-101W	CAPACITOR	100pF,50V
	C6116	NCBA1AK-104W	CAPACITOR	0.1μF,10V
	C6117	NCBA1AK-104W	CAPACITOR	0.1μF,10V
	C6118	NBPE1CM-106X	T CAPACITOR	10μF,16V
	C6119	NCB31EK-103X	CAPACITOR	0.01μF,25V
	C6120	NCBA1AK-104W	CAPACITOR	0.1μF,10V
	C6122	NCBA1AK-104W	CAPACITOR	0.1μF,10V
	C6124	NCBA1AK-104W	CAPACITOR	0.1μF,10V
	C6126	NCBA1AK-104W	CAPACITOR	0.1μF,10V
	C6128	NCB21AK-105X	CAPACITOR	1μF,10V
	C6129	NCB21AK-105X	CAPACITOR	1μF,10V
	C6130	NCB21AK-105X	CAPACITOR	1μF,10V
	C6131	NCB21AK-105X	CAPACITOR	1μF,10V
	C6132	NBEE1AM-106X	T CAPACITOR	10μF,10V
	C6133	NCB21AK-105X	CAPACITOR	1μF,10V
	C6134	NCB11AK-225X-A	CAPACITOR	2.2μF,10V
	C6135	NCB21AK-105X	CAPACITOR	1μF,10V
	C6136	NCB11AK-475X	CAPACITOR	4.7μF,10V
	C6138	NCB21AK-105X	CAPACITOR	1μF,10V
	C6139	NCB21AK-105X	CAPACITOR	1μF,10V
	C6140	NCB21AK-105X	CAPACITOR	1μF,10V
	C6141	NCB21AK-105X	CAPACITOR	1μF,10V
	C6142	NCB11CK-105X	CAPACITOR	1μF,16V
	C6143	NBP21DM-475X	T CAPACITOR	4.7μF,20V
	C6144	NCB11CK-105X	CAPACITOR	1μF,16V
	C6145	NCB21AK-105X	CAPACITOR	1μF,10V
	C6146	NBG41AM-106X	T CAPACITOR	10μF,10V
	C6147	NBG41AM-106X	T CAPACITOR	10μF,10V
	C6148	NCB11AK-475X	CAPACITOR	4.7μF,10V
	C6150	NCB21AK-105X	CAPACITOR	1μF,10V
	C6151	NCB11AK-475X	CAPACITOR	4.7μF,10V
	C6153	NCB21AK-105X	CAPACITOR	1μF,10V
	C6154	NCB20JM-475X	CAPACITOR	4.7μF,6.3V
	C6156	NCB21AK-105X	CAPACITOR	1μF,10V
	C6157	NCB11AK-475X	CAPACITOR	4.7μF,10V
	C6158	NCB20JK-225X	CAPACITOR	2.2μF,6.3V
	C6159	NCB20JK-225X	CAPACITOR	2.2μF,6.3V
	C6163	NCB21AK-105X	CAPACITOR	1μF,10V

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	L6101	NQL32CM-100X	COIL	10μH
	L6102	NQL32CM-100X	COIL	10μH
	L6103	NQL32CM-100X	COIL	10μH
	L6104	NQL32CM-220X	COIL	22μH
	L6105	NQL32CM-220X	COIL	22μH
	L6106	NQL32CM-100X	COIL	10μH
	L6108	NQL315K-100X	COIL	10μH
	L6109	NQL315K-100X	COIL	10μH
	L6110	NQL32CM-100X	COIL	10μH
	L6112	NQL32CM-100X	COIL	10μH
	L6114	NQL32CM-220X	COIL	22μH
	L6116	NQL32CM-100X	COIL	10μH
	L6117	NQL35BK-100X	COIL	10μH
	L6118	NQL35BK-100X	COIL	10μH
	S6101	NSW0096-001X	SLIDE SWITCH	
	T6101	NQS0045-001X	SW TRANSF	
⚠	BT6001	QAB0020-001	LI BATTERY	
	WR1	QUB450-04A2VL	SIN TWIST WIRE	
	WR2	QUB450-03A2VL	SIN TWIST WIRE	
	CN301	QGB0503L1-80X	CONNECTOR	
	CN302	QGB0507M1-30X	CONNECTOR	
	CN303	QGB0506L1-30X	CONNECTOR	
	CN304	QGF0501F1-06X	FPC CONNECTOR	
	CN305	QGF0503F1-06X	FFC/FPC CONNECTOR	
⚠	CN6101	LY31326-001A	BATT.TERM.UNIT	
⚠	F6101	NMFZ007-1R6X-K	FUSE	T1.6A
⚠	F6102	NMFZ007-R20X-K	FUSE	T0.2A
⚠	F6103	NMFZ007-1R6X-K	FUSE	T1.6A
⚠	F6105	NMFZ007-R50X-K	FUSE	T0.5A
	OT1	LY30016-0C2A	SPACER-A	

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MDA BOARD ASSEMBLY <04>

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	PW2	YB10265A2-02	MDA BOARD ASSY	
	IC1601	BD6630KV	IC	
	Q1601	UMC3N	TRANSISTOR	
	D1602	DAP222	DIODE	
	D1603	DAP222	DIODE	
	D1604	DAP222	DIODE	
	R1601	NRSA63J-681X	MG RESISTOR	680Ω, 1/16W
	R1602	NRSA63J-124X	MG RESISTOR	120kΩ, 1/16W
	R1603	NRSA63J-472X	MG RESISTOR	47kΩ, 1/16W
	R1604	NRSA63J-104X	CMF RESISTOR	100kΩ, 1/16W
	R1605	NRV142F-R22X	CMF RESISTOR	0.22Ω,1/4W
	R1606	NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W
	R1608	NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W
	R1609	NRV142F-R33X	CMF RESISTOR	0.33Ω,1/4W
	R1610	NRSA63J-471X	MG RESISTOR	470Ω, 1/16W
	R1611	NRSA63J-471X	MG RESISTOR	470Ω, 1/16W
	R1612	NRSA63J-104X	MG RESISTOR	100kΩ, 1/16W
	R1613	NRSA63J-102X	MG RESISTOR	1kΩ, 1/16W
	R1614	NRSA63J-682X	MG RESISTOR	68kΩ, 1/16W
	R1615	NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W
	R1616	NRSA63J-391X	MG RESISTOR	390Ω, 1/16W
	R1617	NRSA63J-224X	MG RESISTOR	220kΩ, 1/16W
	R1618	NRSA63J-154X	MG RESISTOR	150kΩ, 1/16W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R1619	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
R1620	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R1621	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R1622	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R1624	NRVA63D-123X	CMF RESISTOR	12kΩ,1/16W
R1625	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R1626	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R1627	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R1628	NRVA63D-361X	CMF RESISTOR	360Ω,1/16W
R1629	NRSA63J-684X	MG RESISTOR	680kΩ,1/16W
R1630	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R1631	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R1632	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R1633	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R1634	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R1635	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
R1636	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R1637	NRSA63J-124X	MG RESISTOR	120kΩ,1/16W
R1642	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R1644	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
C1601	NCB31EK-103X	CAPACITOR	0.01μF,25V
C1602	NBE80JM-106X	T CAPACITOR	10μF,6.3V
C1603	NBE80JM-106X	T CAPACITOR	10μF,6.3V
C1605	NCB31CK-104X	CAPACITOR	0.1μF,16V
C1606	NCB31HK-152X	CAPACITOR	0.0015μF,50V
C1607	NCB31CK-473X	CAPACITOR	0.047μF,16V
C1614	NBE21AM-106X	T CAPACITOR	10μF,10V
C1618	NCB31HK-222X	CAPACITOR	0.0022μF,50V
C1619	NCB31HK-222X	CAPACITOR	0.0022μF,50V
C1620	NCB31HK-222X	CAPACITOR	0.0022μF,50V
C1621	NCB21AK-105X	CAPACITOR	1μF,10V
C1622	NCB31CK-223X	CAPACITOR	0.022μF,16V
C1623	NCB31CK-473X	CAPACITOR	0.047μF,16V
C1624	NCB31EK-103X	CAPACITOR	0.01μF,25V
C1625	NCB31CK-473X	CAPACITOR	0.047μF,16V
C1626	NDC31HJ-331X	CAPACITOR	330pF,50V
C1627	NCB31HK-822X	CAPACITOR	0.0082μF,50V
C1628	NCB31AK-224X	CAPACITOR	0.22μF,10V
C1632	NBE21AM-106X	T CAPACITOR	10μF,10V
C1633	NCF21CZ-684X	CAPACITOR	0.68μF,16V
C1635	NCB31CK-104X	CAPACITOR	0.1μF,16V
C1641	NCB31AK-474X	CAPACITOR	0.47μF,10V
L1601	NQL315M-1R0X	COIL	1μH
CN401	QGF0507F1-15X	FPC CONNECTOR	
CN402	QGF0505F2-18X	FPC CONNECTOR	
CN403	QGF0505F2-11X	FPC CONNECTOR	
CN404	QGF0505F2-06X	FPC CONNECTOR	
CN405	QGB0503L1-40X	CONNECTOR	
OT1	LY30029-022A	SPACER(A)	

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FRONT BOARD ASSEMBLY <05>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
PW2	YB10266C2	FRONT BOARD ASSY	
IC1101	TA75W01FU	IC	
IC1801	RS-171-X	IC(PHOTO SENSOR)	
Q1151	RPM-22PB	PHOTO TRANSISTOR	
Q1801	RN1116	TRANSISTOR	
	or DTC143XE	TRANSISTOR	
D1801	TLSU1002/LM/-X	LE DIODE	
R1101	NRSA6AJ-333W	MG RESISTOR	33kΩ,1/16W
R1102	NRSA6AJ-472W	MG RESISTOR	4.7kΩ,1/16W
R1104	NRSA6AJ-105W	MG RESISTOR	1MΩ,1/16W
R1106	NRSA6AJ-105W	MG RESISTOR	1MΩ,1/16W
R1107	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R1108	NRSA6AJ-472W	MG RESISTOR	4.7kΩ,1/16W
R1109	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R1151	NRSA6AJ-302W	MG RESISTOR	3kΩ,1/16W
R1801	NRSA6AJ-391W	MG RESISTOR	390Ω,1/16W
R1802	NRSA6AJ-470W	MG RESISTOR	47Ω,1/16W
R2803	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R2804	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R2805	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R2806	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R2811	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R2813	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R2814	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R2815	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R2816	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
C1101	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C1102	NCBA1CK-223W	CAPACITOR	0.022μF,16V
C1103	NCBA1CK-223W	CAPACITOR	0.022μF,16V
C1111	NCB30JK-105X	CAPACITOR	1μF,6.3V
C1112	NBE90JM-106X	T CAPACITOR	10μF,6.3V
C1113	NBE90JM-106X	T CAPACITOR	10μF,6.3V
C1151	NBE90JM-106X	T CAPACITOR	10μF,6.3V
C1801	NBE90JM-106X	T CAPACITOR	10μF,6.3V
C2801	NCBA1HK-102W	CAPACITOR	0.001μF,50V
C2802	NCBA1HK-102W	CAPACITOR	0.001μF,50V
C2803	NCBA1AK-683W	CAPACITOR	0.068μF,10V
C2804	NCBA1AK-683W	CAPACITOR	0.068μF,10V
C2805	NCBA1HK-102W	CAPACITOR	0.001μF,50V
C2806	NCBA1HK-102W	CAPACITOR	0.001μF,50V
C2807	NCB31EK-103X	CAPACITOR	0.01μF,25V
C2811	NCBA1EK-472W	CAPACITOR	0.0047μF,25V
C2812	NCBA1EK-472W	CAPACITOR	0.0047μF,25V
L1101	NQL402M-100X	COIL	10μH
L1151	NQR0265-001X	FERRITE BEAD	
L2801	NQR0251-004X	FERRITE BEAD	
L2802	NQR0251-004X	FERRITE BEAD	
L2803	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
L2804	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
L2805	NQR0251-004X	FERRITE BEAD	
L2806	NQR0251-004X	FERRITE BEAD	
L2807	NQR0251-004X	FERRITE BEAD	
L2808	NQR0251-004X	FERRITE BEAD	
L2809	NQR0251-004X	FERRITE BEAD	
S1801	QSW0451-001	PUSH SWITCH	
J501	LY40710-001B	JACK UNIT	
J502	QNS0012-001	3.5 JACK	
CN501	QGB0503L1-30X	CONNECTOR	
CN502	QGF0503C1-06V	FFC/FPC CONNECTOR	

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JACK BOARD ASSEMBLY <06>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
PW1	YB10267D1	JACK BOARD ASSY	
IC3101	PDI1394P11ABD	IC	
IC3751	TC7SH08FU	IC(DIGITAL)	
	or TC7SH32FU	IC(DIGITAL)	
D3751	DTZ6.8	ZENER DIODE	
D3752	DF3A6.8FE	ZENER DIODE	
D3753	DF3A6.8FE	ZENER DIODE	
D3754	DF3A6.8FE	ZENER DIODE	
D3755	DF3A6.8FE	ZENER DIODE	
D3756	DF3A6.8FE	ZENER DIODE	
D3757	DF3A6.8FE	ZENER DIODE	
R3101	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
R3102	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3103	NRSA63J-561X	MG RESISTOR	560Ω,1/16W
R3104	NRSA63J-394X	MG RESISTOR	390kΩ,1/16W
R3105	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
R3106	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
R3107	NRSA63J-560X	MG RESISTOR	56Ω,1/16W
R3108	NRSA63J-560X	MG RESISTOR	56Ω,1/16W
R3109	NRSA63J-560X	MG RESISTOR	56Ω,1/16W
R3110	NRSA63J-560X	MG RESISTOR	56Ω,1/16W
R3111	NRSA63J-512X	MG RESISTOR	5.1kΩ,1/16W
R3113	NRSA63J-474X	MG RESISTOR	470kΩ,1/16W
R3114	NRSA63J-512X	MG RESISTOR	5.1kΩ,1/16W
R3119	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3751	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3752	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3753	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3756	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
R3757	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R3758	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3759	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3760	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3761	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R3762	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R3763	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R3764	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R3765	NRSA63J-470X	MG RESISTOR	47Ω,1/16W
R3766	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
C3101	NCB31CK-104X	CAPACITOR	0.1μF,16V
C3104	NDC31HJ-271X	CAPACITOR	270pF,50V
C3105	NCB30JK-105X	CAPACITOR	1μF,6.3V
C3106	NCB30JK-105X	CAPACITOR	1μF,6.3V
C3107	NCB30JK-105X	CAPACITOR	1μF,6.3V
C3108	NCB31CK-104X	CAPACITOR	0.1μF,16V
C3109	NCB31CK-104X	CAPACITOR	0.1μF,16V
C3110	NCB31EK-103X	CAPACITOR	0.01μF,25V
C3111	NBE90JM-106X	T CAPACITOR	10μF,6.3V
C3112	NBE90JM-106X	T CAPACITOR	10μF,6.3V
C3751	NCB30JK-105X	CAPACITOR	1μF,6.3V
L3101	NQR0265-001X	FERRITE BEAD	
L3102	NQR0006-001X	FERRITE BEAD	
L3103	NQR0276-001X	COIL	
L3751	NQR0251-004X	FERRITE BEAD	
WR1	QUB450-02A2A2	SIN TWIST WIRE	
WR2	WJV0029-001A	E-PRIMARY WIRE	
J601	QND0004-001	S JACK	
J602	NNZ0028-001	D CONNECTOR	
J603	PEMC1203	MINI JACK	
J604	QNS0082-001	2.5 JACK	
J605	NNZ0038-001X	D CONNECTOR	
CN601	QGF0301F1-33X	FPC CONNECTOR	
OT1	LY42200-001A	GND SPRING	
OT2	LY30016-0Z4A	SPACER-A	

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MONITOR BOARD ASSEMBLY <07>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
PW	YB10268D	MONITOR BOARD ASSY	
IC7201	XC6367B103M	IC	
IC7210	AT25040N-10SC-X	IC	
IC7300	CXA3268AR-B	IC	
IC7400	CXA3503R-B	IC	
Q7201	2SA1577/QR/-X	TRANSISTOR	
Q7202	2SC4097/QR/-X	TRANSISTOR	
Q7203	DTC144EU	TRANSISTOR	
Q7300	2SA1577/QR/-X	TRANSISTOR	
Q7301	DTC144EE	TRANSISTOR	
	or RN1104	TRANSISTOR	
Q7302	2SA1774/QR/-X	TRANSISTOR	
	or 2SA1832/YG/-X	TRANSISTOR	
Q7305	2SC4617/QR/-X	TRANSISTOR	
Q7306	2SA1774/QR/-X	TRANSISTOR	
Q7307	2SC4617/QR/-X	TRANSISTOR	
Q7308	2SA1774/QR/-X	TRANSISTOR	
Q7400	2SA1577/QR/-X	TRANSISTOR	
Q7401	DTC144EE	TRANSISTOR	
	or RN1104	TRANSISTOR	
Q7402	2SA1774/QR/-X	TRANSISTOR	
	or 2SA1832/YG/-X	TRANSISTOR	
D7201	RB501V-40-X	SB DIODE	
D7300	MA365	VARI CAP DIODE	
D7400	MA365	VARI CAP DIODE	
R7201	NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R7202	NRVA63D-224X	CMF RESISTOR	220kΩ, 1/16W
R7203	NRVA63D-202X	CMF RESISTOR	2kΩ, 1/16W
R7204	NRVA63D-183X	CMF RESISTOR	18kΩ, 1/16W
R7205	NRSA63J-152X	MG RESISTOR	1.5kΩ, 1/16W
R7210	NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W
R7211	NRSA63J-222X	MG RESISTOR	2.2kΩ, 1/16W
R7212	NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W
R7213	NRSA63J-152X	MG RESISTOR	1.5kΩ, 1/16W
R7214	NRSA63J-182X	MG RESISTOR	1.8kΩ, 1/16W
R7215	NRSA63J-272X	MG RESISTOR	2.7kΩ, 1/16W
R7216	NRSA63J-392X	MG RESISTOR	3.9kΩ, 1/16W
R7217	NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W
R7300	NRSA63J-271X	MG RESISTOR	270Ω, 1/16W
R7301	NRSA63J-102X	MG RESISTOR	1kΩ, 1/16W
R7302	NRVA63D-333X	CMF RESISTOR	33kΩ, 1/16W
R7306	NRVA63D-153X	CMF RESISTOR	15kΩ, 1/16W
R7307	NRVA63D-183X	CMF RESISTOR	18kΩ, 1/16W
R7308	NRVA63D-223X	CMF RESISTOR	22kΩ, 1/16W
R7309	NRSA63J-100X	MG RESISTOR	10Ω, 1/16W
R7310	NRSA63J-100X	MG RESISTOR	10Ω, 1/16W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R7311	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
R7312	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
R7313	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R7314	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R7315	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R7316	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R7317	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R7318	NRSA63J-751X	MG RESISTOR	750Ω,1/16W
R7319	NRSA63J-751X	MG RESISTOR	750Ω,1/16W
R7320	NRSA63J-333X	MG RESISTOR	33kΩ,1/16W
R7321	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R7322	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R7323	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R7324	NRVA63D-331X	CMF RESISTOR	330Ω,1/16W
R7325	NRSA63J-751X	MG RESISTOR	750Ω,1/16W
R7327	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R7330	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R7331	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
R7332	NRSA63J-562X	MG RESISTOR	5.6kΩ,1/16W
R7333	NRSA63J-562X	MG RESISTOR	5.6kΩ,1/16W
R7335	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
R7336	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
R7337	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R7338	NVP0016-473X	TRIM RESISTOR,PLL(MONI)	
R7339	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
R7340	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
R7400	NRSA63J-271X	MG RESISTOR	270Ω,1/16W
R7401	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R7402	NRVA63D-333X	CMF RESISTOR	33kΩ,1/16W
R7406	NRVA63D-153X	CMF RESISTOR	15kΩ,1/16W
R7409	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
R7410	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
R7411	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
R7413	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R7414	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R7415	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R7416	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R7417	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R7418	NRSA63J-751X	MG RESISTOR	750Ω,1/16W
R7419	NRSA63J-751X	MG RESISTOR	750Ω,1/16W
R7420	NRSA63J-333X	MG RESISTOR	33kΩ,1/16W
R7421	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R7422	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R7423	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R7425	NRSA63J-751X	MG RESISTOR	750Ω,1/16W
R7427	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R7430	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R7431	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
R7433	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
R7434	NRSA63J-563X	MG RESISTOR	56kΩ,1/16W
R7435	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R7436	NVP0016-473X	TRIM RESISTOR,PLL(VF)	
C7201	NBP41DM-106X	T CAPACITOR	10μF,20V
C7203	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7204	NCB31HK-122X	CAPACITOR	0.0012μF,50V
C7206	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7207	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C7209	NBP41DM-106X	T CAPACITOR	10μF,20V
C7211	NCB21AK-105X	CAPACITOR	1μF,10V
C7300	NCB21AK-105X	CAPACITOR	1μF,10V
C7301	NBE20JM-106X	T CAPACITOR	10μF,6.3V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C7302	NBE20JM-226X	T CAPACITOR	22μF,6.3V
C7303	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7304	NCB31HK-103X	CAPACITOR	0.01μF,50V
C7305	NCB31HK-103X	CAPACITOR	0.01μF,50V
C7306	NCB21AK-105X	CAPACITOR	1μF,10V
C7307	NCB21AK-105X	CAPACITOR	1μF,10V
C7308	NCB21AK-105X	CAPACITOR	1μF,10V
C7309	NBP41CM-106X	T CAPACITOR	10μF,16V
C7310	NBP41DM-106X	T CAPACITOR	10μF,20V
C7311	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7312	NCB21AK-105X	CAPACITOR	1μF,10V
C7313	NBP41DM-106X	T CAPACITOR	10μF,20V
C7314	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7315	NBE20JM-226X	T CAPACITOR	22μF,6.3V
C7316	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7317	NCB21AK-105X	CAPACITOR	1μF,10V
C7318	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7319	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7320	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7321	NDC31HJ-300X	CAPACITOR	30pF,50V
C7322	NCB31HK-102X	CAPACITOR	0.001μF,50V
C7323	NCB31HK-103X	CAPACITOR	0.01μF,50V
C7324	NCB31HK-682X	CAPACITOR	0.0068μF,50V
C7325	NBP21CM-335X	T CAPACITOR	3.3μF,16V
C7330	NBE20JM-226X	T CAPACITOR	22μF,6.3V
C7331	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7335	NBP21DM-475X	T CAPACITOR	4.7μF,20V
C7400	NCB21AK-105X	CAPACITOR	1μF,10V
C7402	NBE20JM-226X	T CAPACITOR	22μF,6.3V
C7403	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7404	NCB31HK-103X	CAPACITOR	0.01μF,50V
C7405	NCB31HK-103X	CAPACITOR	0.01μF,50V
C7406	NCB21AK-105X	CAPACITOR	1μF,10V
C7407	NCB21AK-105X	CAPACITOR	1μF,10V
C7408	NCB21AK-105X	CAPACITOR	1μF,10V
C7409	NBP41CM-106X	T CAPACITOR	10μF,16V
C7410	NBP41DM-106X	T CAPACITOR	10μF,20V
C7411	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7413	NBP41DM-106X	T CAPACITOR	10μF,20V
C7414	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7415	NBE20JM-226X	T CAPACITOR	22μF,6.3V
C7416	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7417	NCB21AK-105X	CAPACITOR	1μF,10V
C7418	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7419	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7420	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7421	NDC31HJ-390X	CAPACITOR	39pF,50V
C7422	NCB31HK-221X	CAPACITOR	220pF,50V
C7423	NCB31HK-103X	CAPACITOR	0.01μF,50V
C7424	NCB31HK-682X	CAPACITOR	0.0068μF,50V
C7425	NBP21CM-335X	T CAPACITOR	3.3μF,16V
C7430	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7431	NBE20JM-226X	T CAPACITOR	22μF,6.3V
L7201	NQL044K-100X	COIL	10μH
L7202	NQL034K-470X	COIL	47μH
L7203	NQL144K-100X	COIL	10μH
L7204	NQL144K-100X	COIL	10μH
L7205	NQL144K-100X	COIL	10μH
L7206	NQL144K-220X	COIL	22μH
L7300	NQL144K-100X	COIL	10μH
L7301	NQL085J-3R3X	COIL	3.3μH

⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
L7400	NQL144K-100X	COIL	10µH
L7401	NQL184K-3R9X	COIL	3.9µH
S7201	NSW0035-001X	TACT SWITCH	
S7202	NSW0035-001X	TACT SWITCH	
S7203	NSW0035-001X	TACT SWITCH	
S7204	NSW0035-001X	TACT SWITCH	
S7205	NSW0035-001X	TACT SWITCH	
S7206	QSW0803-001	PUSH SWITCH	
WR1	WJV0031-001A	E-PRIMARY WIRE	
CN701	QGB0507L1-60X	CONNECTOR	
CN702	QGF0507F1-22X	FPC CONNECTOR	
CN703	QGF0301F1-39X	FPC CONNECTOR	
CN704	QGA1001F1-02X	CONNECTOR	
⚠ F7201	NMFZ008-R375XJ1	FUSE	T0.37A
OT1	LY30029-022A	SPACER(A),X2	
OT2	LY42223-001A	S.SHEET(MONI)	

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CCD BOARD ASSEMBLY <08>

⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
PW1	YB10265B1-01	CCD BOARD ASSY	
IC4101	MN31121SA	IC	
IC4102	MN31121SA	IC	
IC4201	AD9840JST	IC	
IC4202	S-814A31AUC-W	IC	
IC5001	MN5298	IC	
Q5202	2SC3935/Q/-X	TRANSISTOR	
D4101	1SS355	DIODE	
R4101	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
R4102	NRSA63J-124X	MG RESISTOR	120kΩ,1/16W
R4203	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R4207	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R4208	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R4209	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R4210	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R4211	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R4212	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R4213	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R4214	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R5004	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R5005	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R5006	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R5007	NRSA63J-270X	MG RESISTOR	27Ω,1/16W
R5009	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R5010	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R5011	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R5012	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R5013	NRSA63J-134X	MG RESISTOR	130kΩ,1/16W
R5014	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R5015	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R5016	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R5017	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R5018	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R5023	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R5025	NRSA63J-470X	MG RESISTOR	47Ω,1/16W
R5028	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R5201	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R5202	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R5205	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
R5206	NRSA63J-122X	MG RESISTOR	1.2kΩ,1/16W
R5208	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
C4101	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4102	NBP41EM-475X	T CAPACITOR	4.7µF,25V
C4103	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4104	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4105	NBE41AM-476X	T CAPACITOR	47µF,10V
C4106	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4107	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4108	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4109	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4110	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4111	NBP21VM-105X	T CAPACITOR	1µF,35V
C4112	NBP21EM-225X	T CAPACITOR	2.2µF,25V
C4113	NCB31HK-102X	CAPACITOR	0.001µF,50V
C4114	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4115	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4116	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4117	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4201	NBE90JM-106X	T CAPACITOR	10µF,6.3V
C4202	NBE20GM-476X	T CAPACITOR	47µF,4.0V
C4204	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4205	NBE20GM-476X	T CAPACITOR	47µF,4.0V
C4207	NBE90JM-106X	T CAPACITOR	10µF,6.3V
C4214	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4215	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4216	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4217	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4218	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4219	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4220	NDC31HJ-220X	CAPACITOR	22pF,50V
C4221	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4222	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4223	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4224	NCB30JK-105X	CAPACITOR	1µF,6.3V
C4225	NCB30JK-105X	CAPACITOR	1µF,6.3V
C4226	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4227	NCB31CK-104X	CAPACITOR	0.1µF,16V
C5001	NCB31CK-104X	CAPACITOR	0.1µF,16V
C5002	NCB31CK-104X	CAPACITOR	0.1µF,16V
C5003	NBE40JM-476X	T CAPACITOR	47µF,6.3V
C5004	NCB31CK-104X	CAPACITOR	0.1µF,16V
C5005	NCB31CK-104X	CAPACITOR	0.1µF,16V
C5006	NCB31CK-104X	CAPACITOR	0.1µF,16V
C5007	NCB31CK-104X	CAPACITOR	0.1µF,16V
C5008	NCB31CK-104X	CAPACITOR	0.1µF,16V
C5009	NCB31CK-104X	CAPACITOR	0.1µF,16V
C5201	NCB31CK-104X	CAPACITOR	0.1µF,16V
C5202	NCB31CK-104X	CAPACITOR	0.1µF,16V
C5204	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C5205	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C5206	NBP41EM-475X	T CAPACITOR	4.7µF,25V
C5207	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C5209	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C5210	NCB31CK-104X	CAPACITOR	0.1µF,16V
C5214	NBE41AM-476X	T CAPACITOR	47µF,10V
C5215	NBE41AM-476X	T CAPACITOR	47µF,10V
C5216	NBE41AM-476X	T CAPACITOR	47µF,10V
C5217	NCB31HK-152X	CAPACITOR	0.0015µF,50V
L4101	NQR0129-002X	FERRITE BEAD	

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
L4102	NQL045K-100X	COIL	10μH
L4104	NQL045K-100X	COIL	10μH
L4201	NQR0265-001X	FERRITE BEAD	
L4202	NQL402M-100X	COIL	10μH
L4203	NQR0265-001X	FERRITE BEAD	
L5001	NQR0129-002X	FERRITE BEAD	
L5002	NQL045K-100X	COIL	10μH
L5201	NQR0129-002X	FERRITE BEAD	
L5203	NQL045K-100X	COIL	10μH
L5204	NQL045K-100X	COIL	10μH
WR1	WJT0025-001A	E-CARD WIRE	
WR2	WJV0030-001A	E-PRIMARY WIRE	
WR3	YU40017-015-1	THIN WIRE	
WR4	YU40017-015-1	THIN WIRE	
WR5	QUB450-05A2VL	SIN TWIST WIRE	
L1	QQR0717-003	FERRITE CORE	
CN801	QGB0507L1-60X	CONNECTOR	
CN803	QGF0505F1-06X	FPC CONNECTOR	
OT1	LY30029-033B	SPACER(A)	
OT2	LY42204-001A	S.SHEET(CCD3)	
OT3	LY42203-001A	S.SHEET(CCD2)	
OT4	LY30029-039A	SPACER(A)	
OT5	LY42418-001A	S.SHEET(CCD22)	

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PRE/REC BOARD ASSEMBLY <09>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
PW1	YB10266A1	PRE/REC BOARD ASSY	
IC3501	AN3731FHQ	IC(DIGITAL)	
Q3501	2SC4226/4/-X	TRANSISTOR	
Q3502	2SD1979/S/-X	TRANSISTOR	
Q3503	2SD1979/S/-X	TRANSISTOR	
Q3504	2SC4226/4/-X	TRANSISTOR	
R3502	NRSA6AJ-471W	MG RESISTOR	470Ω,1/16W
R3503	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R3504	NRSA6AJ-471W	MG RESISTOR	470Ω,1/16W
R3505	NRSA6AJ-680W	MG RESISTOR	68Ω,1/16W
R3506	NRSA6AJ-152W	MG RESISTOR	1.5kΩ,1/16W
R3507	NRSA6AJ-123W	MG RESISTOR	12kΩ,1/16W
R3508	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R3509	NRSA6AJ-181W	MG RESISTOR	180Ω,1/16W
R3510	NRSA6AJ-181W	MG RESISTOR	180Ω,1/16W
R3511	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R3512	NRSA6AJ-123W	MG RESISTOR	12kΩ,1/16W
R3513	NRSA6AJ-152W	MG RESISTOR	1.5kΩ,1/16W
R3514	NRSA6AJ-680W	MG RESISTOR	68Ω,1/16W
R3515	NRSA6AJ-100W	MG RESISTOR	10Ω,1/16W
R3516	NRSA6AJ-152W	MG RESISTOR	1.5kΩ,1/16W
C3501	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3502	NCB30JK-105X	CAPACITOR	1μF,6.3V
C3503	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3504	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3505	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3506	NCBA1HK-152W	CAPACITOR	0.0015μF,50V
C3507	NBE90JM-106X	T CAPACITOR	10μF,6.3V
C3508	NDCA1HJ-330W	CAPACITOR	33pF,50V
C3509	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3510	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3511	NDCA1HJ-220W	CAPACITOR	22pF,50V
C3512	NBE90JM-106X	T CAPACITOR	10μF,6.3V
C3513	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3514	NBE90JM-106X	T CAPACITOR	10μF,6.3V
C3515	NDCA1HJ-220W	CAPACITOR	22pF,50V
C3516	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3517	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3518	NDCA1HJ-330W	CAPACITOR	33pF,50V
C3519	NBE90JM-106X	T CAPACITOR	10μF,6.3V
C3520	NCBA1HK-152W	CAPACITOR	0.0015μF,50V
C3521	NCBA1HK-122W	CAPACITOR	0.0012μF,50V
C3522	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3523	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3524	NDCA1HJ-470W	CAPACITOR	47pF,50V
C3525	NCBA1HK-681W	CAPACITOR	680pF,50V
C3526	NBE90JM-106X	T CAPACITOR	10μF,6.3V
C3527	NBE90JM-106X	T CAPACITOR	10μF,6.3V
C3528	NBE90JM-106X	T CAPACITOR	10μF,6.3V
C3529	NCBA1AK-104W	CAPACITOR	0.1μF,10V
L3501	NQL04DK-220X	COIL	22μH
L3502	NQL04DK-220X	COIL	22μH
L3503	NQL302N-100X	COIL	10μH
L3504	NQL302N-100X	COIL	10μH
CN901	QGF0517F1-08X	FPC CONNECTOR	
CN902	QGB0510L2-20X	CONNECTOR	
SD1	LY31341-001A	SHIELD CASE(PR)	

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MONI BL BOARD ASSEMBLY <11>

PW1	YB10269A1-02	MONI BL BOARD ASSY	
IC6701	BA050LBSG	IC	
IC7501	TL1451CPW	IC	
IC7502	TC7SH04FU	IC(DIGITAL)	
	or SN74AHC1G04K	IC	
Q7501	UMD3N	TRANSISTOR	
Q7502	SSM3K01F	MOS FET	
Q7504	XP6401	TRANSISTOR	
D7501	MA142WK	DIODE	
D7530	UDZ2.7B	ZENER DIODE	
R7501	NRVA63D-103X	CMF RESISTOR	10kΩ,1/16W
R7502	NRVA63D-123X	CMF RESISTOR	12kΩ,1/16W
R7503	NRVA63D-334X	CMF RESISTOR	330kΩ,1/16W
R7504	NRSA63J-394X	MG RESISTOR	390kΩ,1/16W
R7505	NRSA63J-562X	MG RESISTOR	5.6kΩ,1/16W
R7506	NRSA63J-183X	MG RESISTOR	18kΩ,1/16W
R7507	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
R7508	NRS181J-335X	MG RESISTOR	3.3MΩ, 1/8W
R7509	NRS181J-335X	MG RESISTOR	3.3MΩ, 1/8W
R7510	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
R7511	NRSA63J-751X	MG RESISTOR	750Ω,1/16W
R7513	NRSA63J-273X	MG RESISTOR	27kΩ,1/16W
R7514	NRSA63J-124X	MG RESISTOR	120kΩ,1/16W
R7515	NRSA63J-151X	MG RESISTOR	150Ω,1/16W
R7516	NRSA63J-151X	MG RESISTOR	150Ω,1/16W
R7517	NRSA63J-122X	MG RESISTOR	1.2kΩ,1/16W
R7518	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
R7519	NRSA63J-163X	MG RESISTOR	16kΩ,1/16W
R7520	NRSA63J-393X	MG RESISTOR	39kΩ,1/16W
R7521	NRVA63D-153X	CMF RESISTOR	15kΩ,1/16W

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	R7523	NRVA63D-184X	CMF RESISTOR	180kΩ,1/16W
	R7524	NRVA63D-114X	CMF RESISTOR	110kΩ,1/16W
	R7525	NRSA63J-333X	MG RESISTOR	33kΩ,1/16W
	R7530	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	C6701	NBE91CM-105X	T CAPACITOR	1µF,16V
	C6702	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C6703	NCB31HK-103X	CAPACITOR	0.01µF,50V
	C7501	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C7502	NBE20GM-106X	T CAPACITOR	10µF,4.0V
	C7503	NBE20JM-335X	T CAPACITOR	3.3µF,6.3V
	C7504	NBP41CM-226X	T CAPACITOR	22µF,16V
	C7505	NCB31HK-103X	CAPACITOR	0.01µF,50V
	C7506	NBE20JM-685X	T CAPACITOR	6.8µF,6.3V
	C7507	NDC31HJ-331X	CAPACITOR	330pF,50V
	C7508	NCB21EK-104X	CAPACITOR	0.1µF,25V
	C7509	NBP21CM-685X	T CAPACITOR	6.8µF,16V
	C7530	NBE21AM-106X	T CAPACITOR	10µF,10V
	C7531	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C7532	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C7533	NCB21CK-105X	CAPACITOR	1µF,16V
	C7534	NCB21AK-105X	CAPACITOR	1µF,10V
	L6701	NQL04DK-100X	COIL	10µH
	L7501	NQL044K-220X	COIL	22µH
	T7501	NQS0040-001X	SW TRANSF	
	T7502	NAX0334-001	PIEZOELE TRANSF	
	CN7501	QGF0505F2-18X	FPC CONNECTOR	
	CN7502	QGF0505F2-18X	FPC CONNECTOR	
	CN7503	QGF0505F1-24X	FPC CONNECTOR	
	CN7504	QGF0501F1-06X	FPC CONNECTOR	
⚠	F7501	NMFZ006-R50X-K	FUSE	T0.5A
	OT1	LY30016-0Z6A	SPACER-A	
	OT2	LY41726-001A	PLATE(EARTH)	
	SD1	LY41699-001A	SHIELD PLATE	

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DIAL BOARD ASSEMBLY <13>

REF No.	PART No.	PART NAME, DESCRIPTION	
PW2	YB10269A2	DIAL BOARD ASSY	
Q6701	DTC144EE	TRANSISTOR	
Q6702	DTC144EE	TRANSISTOR	
R6703	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
R6704	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
R6751	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R6752	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
R6753	NRSA63J-182X	MG RESISTOR	1.8kΩ,1/16W
R6754	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W
R6755	NRSA63J-392X	MG RESISTOR	3.9kΩ,1/16W
S6751	NSW0118-001	ROTARY SWITCH	
CN1301	QGF0501F1-06X	FPC CONNECTOR	

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MPL BOARD ASSEMBLY <14>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
PW	YB10291A-01	MPL BOARD ASSY	
IC5401	W194-70G-X	IC	
	or W194-70G	IC	
R5404	NRSA63J-181X	MG RESISTOR	180Ω,1/16W
R5405	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R5407	NVP0019-471X	TRIM RESISTOR,MPL	
R5409	NRSA63J-0R0X	TRIM RESISTOR	0Ω,1/16W
R5413	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
C5401	NCB31CK-104X	CAPACITOR	0.1µF,16V
C5403	NBE90JM-106X	TA E CAPACITOR	10µF,6.3V
C5404	NDC31HJ-100X	CAPACITOR	10pF,50V
C5406	NBE90JM-106X	TA E CAPACITOR	10µF,6.3V
C5408	NCB31CK-104X	CAPACITOR	0.1µF,16V
L5401	NQR0129-002X	FERRITE BEAD	
CN5401	QGF0505F1-06X	FPC CONNECTOR	
OT1	LY42410-001A	S.SHEET(VCO3)	

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